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ABSTRACT

A study was conducted of the staff development activities of community college faculty in Iowa. A questionnaire was developed and distributed to 302 faculty members from the 15 community colleges in Iowa, requesting them to indicate the number of times they had participated in 25 identified staff development activities during the past year, and the total hours of participation in each activity. In addition, the respondents were asked to indicate if they participated in the activity during normal working hours, if it was funded by personal finances, and if it led to promotion and/or salary increase. Study findings, based on responses from 187 faculty members, included the following: (1) five activities were identified as having over 10 mean hours of participation: professional meetings/conferences, area of campus-sponsored inservice training, course work toward an advanced degree, special projects, and community service work; (2) 26.2% of the total hours of participation took place during normal working hours; and (3) the extent of participation was associated with the faculty members' educational attainment. A literature review and the survey instrument are included. (EJV)

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of Iowa community college faculty

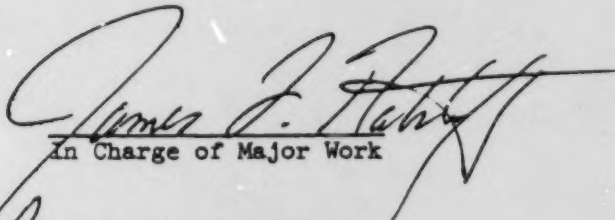
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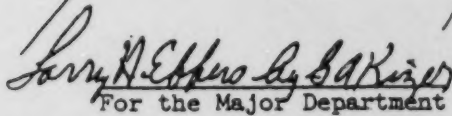
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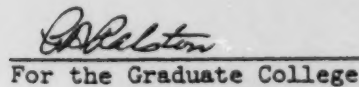
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CHAPTER I. INTRODUCTION

There was a lack of consensus on what constitutes staff development and what variables influenced faculty participation in staff development. The lack of consensus was apparent in discussions among educators as well as in pertinent literature. Titles of articles such as "College Policies Off-Target in Fostering Faculty Development" (O'Connell, 1983) and "Administrators Versus Teachers: Their Perceived Differences and Similarities Regarding Staff Development" (Hunter & Beyen, 1979) exemplified this controversy and uncertainty. A review of selected literature indicated a lack of information on how community college faculty invest in their own professional development and what variables influence staff development participation by community college faculty.

Background

The decade of the 1960s was a period of rampant growth for many community colleges. O'Banion (1976) reported increases of 61 percent in the number of two year colleges, 271 percent in the number of community college students, and 237 percent in the number of community college staff between the years of 1960 and 1970. This upsurge did not continue into the 1970s. The new decade became regarded as one of stabilization (Schultz, 1973 and Mann, 1976). The new period of stabilization had a profound effect upon movement of staff. Cartter (1976) found a 60 percent decrease in the number of faculty who moved from one institution

to another between 1968 and 1976. The reduction in staff mobility had important implications for staff development (Washington & Chisolm, 1979). Washington and Chisolm suggested that staff development programs be modified from an emphasis on orientating new personnel to one of keeping staff professionally vital. This proposed modification had even more significance in view of studies conducted by Bushnell (1973) and the Center for the Study of Community Colleges (1975). These studies indicated that over 75 percent of community college staff planned to continue community college teaching during the next five years. It was evident that changes that had occurred in many community colleges should have brought about a reassessment of the purposes of staff development and implementation of new concepts to meet the demands of keeping faculty current in their profession.

Studies by Centra (1976) and Smith (1980) showed that staff development programs and policies were more appealing to those faculty in their early years of teaching. Centra surveyed academic dean's perceptions of staff development at 326 two-year institutions and 430 four-year colleges and universities. He found that at 50 percent of the institutions, half or more of those faculty in their first years of teaching were involved in staff development activities. Only 26 percent of the colleges responded that half or more of their faculty with 15-20 years of teaching experience were active in staff development. Smith (1980), in a study of 413 community colleges, found similar results. Fifty-six percent of the community colleges reported that half or more

of their faculty in their first years of teaching were involved in staff development. Only 31 percent of the academic deans responded that half or more of their faculty with 15-20 years of teaching experience were active in staff development. No attempt was made in either study to compare those two levels of teaching experience with the intervening levels between 5 and 15 years of experience. In a review of selected literature, no additional studies were identified which compared the extent of staff development participation with various levels of teaching experience.

A factor that contributed to greater staff development participation of faculty in their early years of teaching was suggested by Cohen and Brawer (1982). They indicated that the rapid expansion of community colleges was due, in part, to the proliferation of career education programs. It was common for career education faculty that were hired to only have had professional or vocational experience. These newly hired instructors were encouraged to pursue bachelor's and master's degrees by salary schedules that provided incentives for academic degrees (Cohen & Brawer, 1982). In a review of selected literature, no study was identified which compared the extent of staff development participation with various levels of educational attainment.

The growth of career education programs was also perceived by Cohen and Brawer (1982) as having had implications for greater staff developmental opportunities for teachers in the career education instructional area. They reported that large sums of money had been

available for career education departments to develop new programs, undertake studies, and conduct research projects. The increased availability of money had provided greater opportunities for staff development to career education faculty. Arts and Sciences instructors had not enjoyed the same opportunities because there had not been as much course development work and availability of funds in their instructional areas. In a review of selected literature, no study was identified which compared the extent of staff development participation between arts and sciences faculty and career education faculty.

Attempts had been made to study the effectiveness of various institutional policies and practices. Centra (1976) and Smith (1980) found unpaid study leaves perceived as effective by 47 percent and 55 percent of the colleges surveyed, respectively. Sabbatical leaves, with at least half salary, were viewed effective by 60 percent of the colleges surveyed in Centra's study and 62 percent of the colleges surveyed in Smith's study. Neither study examined participation of faculty in activities conducted during normal working time versus those conducted outside of normal working time. This review of selected literature had not found any studies of this type conducted on the community college level.

The influence of funding was examined in the studies conducted by Centra (1976) and Smith (1980). Grants for faculty members to develop new approaches to teaching, refresh or update knowledge, and attend professional conferences were viewed effective by 67 percent or more of

the colleges surveyed in both studies. Neither study attempted to determine the differences in staff development participation between activities funded by the personal resources of the teacher and those funded by other sources. A review of selected literature had not discovered any studies conducted to determine those differences.

Influences of incentives, such as salary increases and promotions for faculty participation in developmental activities, were discussed in the literature. O'Banion (1972b) pointed out that faculty salaries were primarily based on education hours and work experience. He concluded that salary schedules encouraged community college faculty to take university classes in order to earn more money. He added that faculty were rewarded more for completing university course work than local coordinated inservice experiences. Cohen and Brawer (1982) claimed that community college salary schedules encouraged faculty to pursue bachelor's and master's degrees since they provided financial incentives for academic degrees. The influence of incentives was also viewed as significant by Vogler (1980) who recommended that they be used to encourage faculty to be active in staff development. A review of selected literature had not indicated any studies conducted that had measured the extent of staff development participation between activities which led to promotion and/or salary increases and those that did not.

Hammons (1982-83) examined evaluation of staff development participation in a review of literature. Hammons concluded that

evaluation data consisted largely of statistical reports of number of sessions held and persons in attendance. He summarized that results had not been gathered in order to benefit the individuals or colleges involved.

A review of selected literature indicated that no deliberate attempt had been made to study what influence several variables had on staff development participation by community college faculty. These variables included (a) instructional area, (b) educational attainment, (c) teaching experience, (d) when the activities were conducted, (e) how they were funded, and (f) if they were rewarded.

Need for the Study

The importance of staff development was emphasized by W. R. Richardson (1975) who stated that "The quality of service in the community college depends primarily on the quality of the staff" (p.1). If the quality of service is primarily dependent upon the quality of the staff, then staff development was to be viewed as a major priority of community colleges.

A review of selected literature indicated a need to study the influence of certain variables on the level of participation by community college faculty in staff development activities. These variables were (a) instructional area of faculty, (b) educational attainment of faculty, (c) the years teaching experience of faculty, (d) the time allocated for staff development activities, (e) type of staff development funding, and (f) incentives to encourage staff

development participation. It was necessary to determine what influence these variables had on faculty involvement in staff development in order to better understand professional development at community colleges. These determinations would provide a base of knowledge from which recommendations could be made for assessment and modification of community college staff development programs to keep faculty active in professional development.

Statement of the Problem

A review of selected literature indicated that knowledge regarding the influence of several variables--instructional area, educational attainment, teaching experience, time, funding, and incentives--on staff development participation of community college faculty was lacking. The effect of those variables on involvement needed to be studied and measured so that a base of knowledge could be established to give future direction to community college staff development programs.

Purpose of the Study

The purpose of this study was threefold: (a) to define staff development; (b) to identify and describe staff development activities, sources of funding, and incentives, through a review of selected literature; and (c) to test selected variables. This study determined whether differences in staff development participation among community college faculty existed between the variables of (a) instructional area of faculty, (b) educational attainment of faculty, (c) the years teaching experience of faculty, (d) the time allocated for staff development

activities, (e) type of staff development funding, and (f) incentives to encourage staff development participation. This study determined the influence of selected variables and provided a base of knowledge upon which staff development programs could be assessed and modified to keep community college faculty professionally active.

Hypotheses Tested

- Hypothesis 1: The extent of staff development participation among faculty did not vary according to type of teacher certification.
- Hypothesis 2: The extent of staff development participation among faculty was not associated with the educational attainment of faculty members.
- Hypothesis 3: The extent of staff development participation among faculty did not vary according to the years of teaching experience of the individual faculty member.
- Hypothesis 4: The extent of staff development participation among faculty did not vary between activities conducted during normal working time and those conducted outside of normal working time.
- Hypothesis 5: The extent of staff development participation among faculty did not vary between activities funded by personal finances and those funded by other sources.

Hypothesis 6: The extent of staff development participation among faculty did not vary between activities which led to promotion and/or salary increase and those that did not.

Delimitations of the Study

This study was an investigation of the influence of selected variables on staff development participation by Arts and Sciences/General Education faculty and Vocational-Technical/Career Education faculty in Iowa community colleges (for purposes of this study, the term 'Iowa community colleges' includes all 15 merged area schools). Since this study was limited to faculty at Iowa community colleges, it could not be generalized to other states or types of institutions. The procedures used in this study, however, could be used as a model in future examinations of staff development participation of community colleges in other states.

Only full-time instructional members of two-year community colleges in Iowa were included in this study. Staff development could refer to the improvement of part-time faculty, administrators, counselors, non-instructional staff members, etc.

Definition of Terms

The following terms used in this study were defined as follows:
 --Arts and Sciences/General Education: a secondary, post-secondary, or adult education program of studies organized to aid students

with the common activities of work, citizenship, and family life through a wide variety of elective course offerings (Law, 1971).

--Community college: a two-year post-secondary educational institution involving a geographical area operated by a board of education of a local administrative unit. Various local community needs affect the content and delivery systems of the instructional programs (Law, 1971).

--Vocational-Technical/Career Education: academic and technical instruction including field or laboratory work designed to prepare students for gainful employment in occupations requiring semi-skilled, skilled, or technical workers or subprofessionals in recognized fields. The instruction is under control and supervision of a local educational agency and excludes programs designed to prepare individuals for professional employment or occupations requiring a baccalaureate or advanced degree (Law, 1971).

Significance of the Study

Centra (1976), in a study of 430 colleges and universities and 326 two-year institutions, indicated that the declining rate of growth in post-secondary education had reduced staff mobility and colleges could no longer rely upon new staff to help keep them vital. Also, staff could not broaden perspectives simply by changing positions. From a review of literature, Bare (1977) indicated that the expansion of higher education and staff mobility had created an environment for

new ideas and individual growth. He concluded that stabilization of staff in state institutions could easily contribute to staff obsolescence. Centra (1976) and Bare (1977) sensed the danger of colleges and staff being reticent to the changes that occurred in post-secondary education. They saw a need to examine methods of keeping staff active in professional development.

A transition from a period of rapid growth to one of stabilization had occurred for many community colleges. The reduction of staff mobility between institutions had been documented in the literature. Corresponding changes in staff development programs and studies examining the influences of several variables of staff development participation were not evident in selected literature. Attempts had not been made to determine what exactly affected faculty involvement in staff development. This study determined the influence of six selected variables on community college faculty involvement in staff development.

Summary

In order to meet the need of keeping faculty active in professional development, staff development programs must be continually updated and modified. Staff development activities had to be identified and faculty involvement analyzed to determine what influence certain variables had on faculty participation.

This research was designed to assist community college personnel in improving staff development participation. It was felt that a more

professionally active faculty would be able to better serve their students and community.

CHAPTER II. LITERATURE REVIEW

A review of selected literature on the broad topic of staff development served to identify prior research on faculty participation rates of such activities. Variables pertinent to the study, research perspectives on staff development, and commentaries on the issue were analyzed.

A Need for Examination

Staff development programs had proliferated in community colleges during the 1970s and had become an established part of the activities of an estimated 50 percent of all two-year colleges according to Smith (1980). However, of the 413 academic deans surveyed by Smith, only 25 percent of them had conducted an assessment of their staff development program or activities to provide information for modification or improvement of services. Forty-two percent of the academic deans had not evaluated their program or activities at all. Twenty-eight percent responded that a partial assessment had been completed and 5 percent of the academic deans did not respond. It became apparent that most two-year colleges had not examined their staff development programs diligently to determine who was involved, what was being done, and why. Without an assessment, it would be difficult to analyze faculty participation and the effect of variables on faculty participation.

The importance of staff development programs was examined extensively by various authors. The importance of staff development was reported by Harris, Bessent, and McIntyre (1969) who concluded that

a continuing program of staff development was needed because (a) pre-service preparation of professional staff was rarely ideal and may be nothing more than an introduction to actual professional preparation, and (b) current professional practices were made obsolete or relatively ineffective in a very short period of time by social and educational change. Gleave (1983) approached the importance of staff development from a different perspective. With over 75 percent of system budgets allocated to staff salaries and benefits, he concluded that staff should be expected to keep themselves current in their profession. Considering the importance of staff development to keep faculty active and current, evaluation of staff development programs could be considered necessary to determine their effectiveness.

The literature suggested several purposes for staff development programs. While most authors suggested multiple purposes, there was some disagreement as to what those purposes should be. Appleton, Briggs, and Rhatigan (1978) indicated that a staff development program should accomplish the following: (a) improve communication at all levels in order that a general knowledge and perspective of student affairs and of the institution may be developed, (b) provide inservice for all staff in order to encourage improvement in work skills, and (c) provide continuing education opportunities in order to encourage professional advancement and personal growth. This philosophy was shared by Washington and Chisolm (1979) who claimed that staff development programs should help educators study, solve educational and

social problems, acquire new skills, and keep abreast of new technology.

Adams (1983) reported that staff development provided by the institution was usually within the employee's present job functions and that staff development programs were generally designed to improve job performance rather than to enhance the individual's opportunity for career advancement. Thus, when administrative positions become vacant, community colleges tended to seek talents outside of the institution rather than develop them from within. Adams maintained that an analysis of staff's personal goals must be made in order to implement a successful staff development program for that individual.

Schiffer (1978) espoused the philosophy that staff development programs needed to be designed to create personal change. Dallas County Community College District (DCCCD) designed a Career Development and Research Program not only to improve job performance but also to enhance personal growth; a grant seeded the planning of this staff development program. The staff development program had 3 objectives: (a) to offer renewal and career-path training to staff, (b) to provide for a bank of trained personnel for internal promotion opportunities, and (c) to broaden and enhance employee understanding of the DCCCD and community college education (Caswell, 1983). The DCCCD Career Development and Research Program was a product of the philosophy that staff development should not only provide renewal but also offer opportunities for professional growth and advancement.

Several articles advocated comprehensive planning in developing staff development programs. Barwick (1980) commented that staff development shouldn't be limited to just sending an interesting article to all faculty. O'Banion (1972a) suggested a further aspect for staff development in the fact that it should not just be seasonal but on-going, year around. Zion and Sutton (1973) warned against providing professional development on a piece-meal basis. They advocated an integrated approach consisting of (a) an organized philosophy, (b) clearly stated goals, (c) comprehensive planning, (d) skilled operations, (e) appropriate teaching strategies, and (f) evaluation techniques.

It was concluded that effective staff development programs required a concerted effort of organization, implementation, and evaluation in order to provide faculty with the opportunity for professional growth. The rate of professional growth and improved abilities of faculty had to keep pace with social and educational advancements. In order for community colleges to meet the demands of keeping faculty current in their profession, it was determined that an examination and assessment had to take place first in order to analyze what currently was being done, who was involved, and what needs existed.

Defining Staff Development

The literature reviewed utilized a variety of descriptions and criterion for staff developmental activities. Terms such as staff development, inservice education, and faculty development were used

to describe activities designed to promote improvement of college employees. Staff development generally referred to development of all college employees including faculty, administrators, and support staff. Barwick (1980) described staff development as the continued growth of people who worked for a college. O'Banion (1974), Ralph (1973) and R. C. Richardson (1975) viewed staff development as a program that was deliberately and carefully planned to help all staff members in the community college to experience their full potential. They saw staff development as all planned activities which were designed to renew, expand, and improve the abilities, skills, and knowledge of those who participated. Both of these descriptions emphasized the personal growth of the individual staff member.

Staff development had also been viewed not only as a process for improvement of the individual staff member and their job performance, but also for improvement of the institution and education. Law (1971) described faculty development as an educational program for teachers. He saw faculty development as serving to develop the teacher's professional ability and advance education. Hammons (1982-83) added an additional perspective. He saw staff development as meaning improvement, not only of people and their abilities, but also improvement of the college. Hammons' view was shared by Vogler (1980) who claimed that inservice education should insure that new technology and creative instructional strategies were incorporated into the institution. Based upon the literature reviewed, staff development

was defined in this study as meaning improvement of one or more of the following: (a) the staff member, (b) the job performance, (c) the institution, and (d) the educational process.

While the definition of staff development used in this study described an end result, the definition did not stipulate any requirement in regards to amount of time spent on the developmental activity or motivation of the participant. Tough (1971) considered the elements of time and motivation in a study of adult learning projects. He found that the average adult spent approximately 700 hours each year on learning projects. A median of 8 learning projects completed per adult was discovered involving 8 distinct areas of knowledge and skill. Tough found that most of the learning projects involved seeking knowledge directly or indirectly from other people who already possessed it. Tough described a learning project as a "major, highly deliberate effort to gain certain knowledge and skill (or to change in some other way)" (p.1). He defined a learning project as:

... a series of related episodes adding up to at least 7 hours.

In each episode, more than half of the person's total motivation is to gain and retain certain fairly clear knowledge and skill, or to produce some other lasting change in themselves.

(Tough, 1971, p.6)

Tough selected the criterion of 7 hours minimum necessary because the time was equivalent to 1 working day. He also stipulated that the time

involved in the learning project must have occurred within a 6 month period. In order for an episode to qualify as part of a learning project, a desire must have existed in the learner to gain and retain certain knowledge and skill.

The study on learning projects of adults (Tough, 1971) involved an examination of a broader scope of individuals than community college faculty. The units of measure and time frame used by Tough, however, provided methodology and measurement techniques applicable to an analysis of staff development activities. Prior studies of staff development regarding participation had largely been based on perceptions of faculty or supervisors. This study used actual self-reported participation rates as a basis for measuring staff development using Tough's model. The 1984 calendar year served as a specific time period to equalize staff development opportunities for faculty who's participation may have been influenced seasonally. Participation in staff development was measured by number of times in which participation occurred and total number of hours spent on the activity.

Identifying Staff Development Activities

In order to describe the professional development activities of community college faculty, it was first necessary to differentiate between actual staff development activities and college plans and policies for faculty development. From selected literature, a list of 25 exemplary activities was compiled; these activities are portrayed in Table 1.

Table 1. Faculty development activities cited in selected literature

Staff Development Activities	Barvick (1980)	Centra (1976) and Smith (1980)	Cohen and Braver (1982)	Hansen and Rhodes (1982)	Mangieri and Kesper (1983)	O'Banion (1979)	Washington and Chisols (1979)
1. Attending professional meetings/conferences		X	X	X	X		X
2. Attending a non-professional meeting/retreat				X	X	X	X
3. Attending an area/campus sponsored inservice activity	X	X	X		X		X
4. Attending an off-campus/non-area workshop/seminar			X	X	X		X
5. Attending an industry sponsored meeting	X						
6. Attending an institute		X	X	X	X	X	X
7. Formal evaluation by administrators		X	X				
8. Formal evaluation by students		X	X				
9. Formal evaluation by colleagues		X	X				
10. Self assessment (by videotaping, survey, etc.)	X	X					
11. Assessment by outside specialist		X					
12. Taking course work towards an advanced degree	X		X		X	X	X
13. Taking course work not towards an advanced degree	X	X	X	X	X		X
14. Taking local campus curriculum offerings		X			X	X	
15. Individual reading/studying	X				X		X
16. Taking a study leave		X	X	X			X
17. Taking a sabbatical leave		X	X	X			
18. Conducting a special project		X	X			X	
19. Attending a field trip					X		
20. Visiting another educational institution	X	X			X	X	
21. Participating in a faculty exchange		X		X			
22. Internal and external professional consulting		X	X	X			
23. Conducting a development plan		X				X	
24. Participating in community service work					X		
25. Participating in individual work with a specialist		X					

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Washington and Chisolm (1979) grouped staff development activities into two categories. Those two categories were (a) district planned programs and inservices such as workshops and meetings; and (b) independent self-improvement programs and activities such as pursuing an advanced degree, additional course work, professional meetings or conferences, individual reading or studying, workshops, institutes, and study leaves. Centra (1976) and Smith (1980) grouped development practices into five categories: (a) workshops, seminars, programs, (b) analysis and assessment practices, (c) media, technology, and course development, (d) miscellaneous practices, and (e) institution-wide practices. The activities portrayed in Table 1 were listed in an order similar to the groups of Centra and Smith, but with some modification. An attempt was made to list them in an order of common type. Activities 1 through 6 included meetings, seminars, workshops, inservice, institutes, retreats, and conferences. Some of these activities were combined because it was not possible to denote any differences between them in the literature. Activities 7 through 11 included those related to evaluation and assessment. Activities involving course work were listed in activities 12 through 14. Activities 15 through 25 included other various activities; however, as cited in the literature, study and sabbatical leaves could be associated with course work.

The five most frequently cited activities in the literature were professional meetings or conferences, area/campus inservice,

institutes, course work towards an advanced degree, and course work not towards an advanced degree. These activities were cited by 5 or more of the 7 literature sources selected. Cohen and Brawer (1982) viewed professional meetings or conferences, local inservice programs, and institutes as being a part of formal inservice training that had been a feature of community colleges throughout their history. They also cited course work offered by universities as popular among community college faculty because they allowed instructors to earn credits and degrees to advance on the salary schedule. The frequency of those 5 activities cited in the literature, as Cohen and Brawer suggested, was due to tradition established in community colleges by formal inservice training programs and incentives offered by salary schedules. Hansen and Rhodes (1982) also referred to activities traditionally supported by staff development programs of community colleges. They viewed workshops, seminars, study leaves, institutes, retreats, internal and external consultation, professional meetings, faculty exchanges, sabbaticals, and graduate level course work as traditionally supported staff development activities. It was necessary to identify developmental activities from the literature so that a complete list could be compiled. The compiled list was needed for development of an instrument for testing selected variables to determine the influence of those variables on staff development participation.

Types of Institutional Support for Faculty Development

Several types of institutional supports were identified in the review of literature. The source of funding most frequently cited for staff development activities was the general operating funds of the community college. Centra (1976) reported that of 326 two-year colleges surveyed, 70 percent of all staff development funds came from institutional general funds, 16 percent came from federal government or foundational grants, 11 percent came from state funds, and 3 percent came from such sources as alumni or special funds.

Typical institutional supports were mentioned in the literature. Bare (1977), Centra (1976), Hansen and Rhodes (1982), and Smith (1980) listed paid sabbaticals and travel money as two common institutional supports. Bare also listed research grants, redirection grants (grants to train faculty to teach in a new or different area), and tuition refund or reimbursement as institutional supports. Centra and Smith listed the funding of summer grants to improve instruction or course content; a visiting scholars program; and provision for campus specialists in the area of media, teaching methods, and testing as additional institutional supports. Bare, Hansen and Rhodes, Centra, and Smith cited release time as an institutional support. Bare and Hansen and Rhodes mentioned job rotation and internships. Lighter than normal teaching loads for first year faculty and faculty conducting research or working on course development were noted by Centra and Smith. Bare also mentioned secretarial and duplication services for faculty projects as institutional supports.

Incentives and financial rewards for faculty to become involved in staff development were viewed as institutional supports. Mangieri and Kemper (1983) identified direct incentives of paid attendance and salary increments for faculty development activities and an indirect incentive of paid release time for faculty to pursue additional course work.

The importance of providing incentives to encourage staff development was noted by administrators of Miami-Dade Junior College-North as they incorporated a reward system into their staff development program. Participating faculty received special consideration toward staff promotions and work load adjustment (Zion & Sutton, 1973).

The literature reviewed consistently called for the college to provide incentives for staff development. It was also apparent, from prior studies, that an availability of institutional support was lacking. Garrison (1975) reported that sabbatical leave programs, grants for summer study, provisions for released time, and allowances for travel were not available for most community college faculty. The Center for the Study of Community Colleges (1975) indicated that nearly half of the instructors surveyed felt that satisfactory opportunities and supports for staff development were not available at their college. Smith (1980) indicated that availability of funds would determine the impact of developmental programs in the 1980s. In a study of 413 community colleges, Smith received responses from 362 regarding the percentage of their total budgets allocated for

staff development activities. Sixty-six percent reported that 1 percent or less of their total annual institutional budgets were allocated for staff development activities. Twenty-eight percent reported 2 to 4 percent, 5 percent reported 5 to 7 percent, and 2 percent reported over 8 percent of their institutional budgets allocated for developmental activities. Considering the fact that most community colleges budget 1 percent or less of their general funds for developmental activities, it was apparent that financial support for staff development was not a budgeting priority for many community colleges.

A majority of academic deans surveyed by Centra (1976) and Smith (1980) viewed several institutional supports as being effective for staff development. The supports viewed the most effective were travel funds to attend professional conferences and grants used by faculty to develop new or different approaches to courses or teaching. However, the literature did not indicate what effect institutional supports had on actual participation of faculty in developmental activities.

Developmental Needs of Faculty

Several studies which examined developmental needs of faculty were identified in the literature. In a study involving a needs assessment analysis of faculty at Lansing Community College in Lansing, Michigan, Cooper and Smolen (1977) determined that developmental needs of faculty in arts and sciences and applied arts and sciences were

very similar. The activity "keeping abreast of new developments in my own area of instruction" was rated the most important by both faculty groups. "Understanding and using teaching methods other than lecture" was rated as the second most important by both groups. Two other developmental activities were among the top five deemed the most important by each group. Those activities were (a) "increasing capacity to give stimulating lectures", and (b) "using evaluation skills in the classroom". The only major difference between the two groups was that the arts and sciences faculty rated an activity "on using learning resources" as more important; whereas, the applied arts and sciences instructors rated an activity "involving problem solving and decision making" as more important.

In a study of mid-America two-year colleges, selected on a state by state random sampling from the American Association of Community and Junior Colleges Directory, Hunter and Beyen (1979) questioned faculty as to their needs for developmental activities. They found that faculty were most likely to consider (a) development of cognate fields, (b) motivation of students, (c) negotiations, (d) promotion and tenure, and (e) publications and copyrights as important staff development needs. There was no attempt in the study to determine differences in needs between various groups of faculty.

Garrison (1967) conducted informal interviews with approximately 700 faculty at 20 two-year colleges. His purpose was to conduct an appraisal of issues and problems confronting two-year college faculty.

Garrison (1967) found that there was not as much federal or state money available to liberal arts instructors for professional improvement as compared with vocational faculty. He also determined that two-year college faculty desired graduate programs that were designed for the practicing teacher and not the specialist. Garrison concluded that the two biggest deficiencies of staff development programs were a lack of time and money. He suggested that two-year colleges provide summer programs with a travel and subsistence allowance for faculty to participate in professional development activities.

In a survey of academic deans from 413 two-year colleges, Smith (1980) identified 6 staff development goals that were the most frequently selected by the respondents from a list of 31 goals he had offered. The six goals were (a) to increase staff development of responsiveness to student needs, (b) to increase the faculty's knowledge about the teaching-learning process, (c) to increase the faculty's skills in instruction, (d) to create a climate in which the attainment of effective teaching is the ongoing concern, (e) to increase the faculty's repertoire of teaching methods, and (f) to reduce student attrition. Smith (1980) also surveyed the academic deans in regards to what they considered to be the most effective staff development practices. The following were rated as the four highest: (a) travel funds to attend professional conferences, (b) use of grants by faculty members for developing new or different approaches to courses or teaching, (c) summer grants for projects to improve

instruction or courses, and (d) faculty visitations to other institutions to review educational programs and innovative projects. The emphasis on staff development goals and practices to improve teaching was quite apparent in Smith's (1980) results.

Hammons and Jaggard (1976) conducted a study of 300 community college faculty in Illinois and 350 community college faculty in Florida in an attempt to assess preferences of faculty relating to staff development. Hammons and Jaggard determined that (a) most faculty preferred to have developmental activities on campus, (b) staff members were willing to commute to staff development activities within a reasonable driving distance, and (c) staff members viewed short-term workshops as the most feasible method of acquiring skills.

In a study of 1,998 two-year college faculty, the Center for the Study of Community Colleges (1975) found that (a) 61 percent of the faculty would like to spend more time on research or professional writing, (b) 53 percent would like to continue graduate education, and (c) 41 percent desired more time conferring with colleagues.

Based upon a review of literature and examination of research studies, Cohen and Brawer (1982) concluded that community college faculty preferred courses and programs in their area of interest. They also found that faculty preferred to attend courses and programs at universities that were within a short distance. Cohen and Brawer noted that career education faculty had a need for preparatory courses in teaching since many of them were not trained for teaching.

The desire of faculty to earn degrees and credits to advance on salary schedules was reported by Cohen and Braver (1982) and O'Banion (1972b). Braver and Friedlander (1979) indicated that 74 percent of community college faculty held master's degrees, 15 percent held doctorate degrees, 8 percent held bachelor's degrees, and 3 percent held degrees less than a bachelor's degree or held no degree at all. Cohen and Braver claimed that the vast majority of faculty who did not hold graduate degrees were career education faculty. They saw a desire on the part of career education faculty to pursue degrees to advance on salary schedules and also raise their professional status to equal that of their colleagues.

A review of selected literature concerning studies on developmental needs determined that the emphasis was upon activities which (a) kept the instructors current in their own field, (b) improved their ability to teach, (c) provided an opportunity to increase their salary, and (d) continued their professional growth. The greatest hindrance to professional development noted was a lack of time and money.

Differences in Staff Development Participation Among Faculty

A review of selected literature identified few attempts to examine differences in staff development participation among various faculty groups. Garlock (1979) conducted a study of 77 full-time faculty at Cayuga County Community College in Auburn, New York. A series of 2-5 hour workshops were offered to all faculty members.

Garlock (1979) awarded faculty members one point for each workshop attended. The total number of times a faculty member attended a workshop became their participation score. Garlock divided the faculty into two groups according to their instructional area. He classified one group of 50 teachers into a general faculty group. He described this group as teachers who taught traditional courses such as history and philosophy. He classified the remaining 27 teachers into a skill subjects faculty group. He described this group as teachers who taught courses in nursing, police science, and fire science. The mean participation score for the general faculty group was .72. The mean participation score for the skill subjects faculty group was .66. In a test of the mean participation scores, Garlock found no significant difference between the two groups.

Garlock (1979) also tested the influence of tenure on faculty participation. He divided the faculty into a group of 18 untenured teachers and a group of 59 tenured faculty. The mean participation score for the untenured faculty was .94. The mean participation score for the tenured faculty was .62. Garlock tested the means and found the difference significant at the .05 level. He speculated that the reason untenured faculty participated more was because they felt less secure or that they needed more improvement. Garlock summarized his study by concluding that his results were probably more suggestive than conclusive. He hoped that further research would be conducted in examining differences in participation between various faculty groups.

In an attempt to identify characteristics of two-year college humanities teachers and their influence on professional involvement, Schlesinger (1976) examined 1,493 humanities teachers as to their professional views, attitudes, academic ability, and concern for students. She assumed there was a positive correlation between faculty views, academic ability, and concern for students, and their involvement in the teaching profession. Based upon her study, she concluded that the most professionally involved humanities teachers were ones that (a) were 46-53 years old, (b) held non-doctorate degrees, (c) were employed full-time, and (d) were employed previously as secondary school teachers. Schlesinger also determined that among humanities teachers, those teaching the social sciences were more inclined to desire advanced degrees than those teaching courses in the aesthetic-type programs such as art or music. She speculated that instructors in aesthetics had more of a desire and need to practice their own art.

Centra (1976) and Smith (1980) found teachers in their first years of teaching to be viewed as more active in staff development than teachers who had over 15 or 20 years of teaching experience. Centra and Smith also found differences between tenured and non-tenured faculty. Centra discovered that 44 percent of the academic deans perceived half or more of their non-tenured faculty involved in staff development as compared with only 33 percent of the deans that viewed half or more of their tenured faculty as being involved. Smith found

that 49 percent of the academic deans perceived half or more of their non-tenured faculty active in staff development as compared with only 37 percent of the deans which perceived half or more of their tenured faculty being active.

Cohen and Brawer (1982) perceived career education faculty as more involved in staff development than arts and sciences faculty. They based their perception on the premises that career education faculty had more access to funding, were in pursuit of bachelor's degrees and master's degrees, and were part of a growing and expanding area. Cohen and Brawer had not pointed to any studies conducted to document their contentions.

O'Banion (1972b) also perceived career education faculty as more professionally active. He viewed academic faculty as more traditional than vocational faculty. He also saw vocational faculty requiring more technical updating and pursuing degrees to improve their professional status and position on the salary schedule. O'Banion did not make reference to any studies which had tested differences in participation between two faculty groups.

In a review of the literature, no studies were identified which studied the extent of faculty participation in staff development between levels of degree attainment. Cohen and Brawer (1982) and O'Banion (1972b) viewed faculty with lower degrees as being more active in staff development than faculty with higher degrees. They felt that incentives offered by salary schedules were just too compelling and encouraged faculty with lower degrees to pursue advanced

degrees. They also based their assumption upon the premise that faculty with lower degrees were generally those teaching in career education and those who had taught for a shorter period of time. This faculty group was reasoned as being more active not only because of salary incentives but also because of their perceived need for improvement and training in teaching.

Staff development participation by various groups of faculty was not found to be an extensively studied topic. A review of the literature indicated that faculty in their early years of teaching were perceived to be more active as compared with faculty with over 15 years of teaching experience. Career education faculty were perceived as being more active in staff development than arts and sciences faculty, even though Garlock (1979) found no significant difference between groups he classified as general faculty and skill subjects faculty. Faculty without degrees or lower degrees were viewed as more active in staff development than faculty with higher degrees. As Garlock suggested from his study, it can be summarized that most of the evidence found was suggestive rather than conclusive.

Influence of Time, Finances, and Incentives

on Staff Development Participation

Several studies were identified in the literature which examined the influence of time, finances, and incentives on participation of faculty in staff development. Centra (1976) and Smith (1980) found sabbatical leaves to be effective by 60 percent or more of the academic

deans surveyed. Unpaid study leaves were found to be effective by 47 percent or more of the academic deans surveyed. Time was also found to be a crucial element by Garrison (1967) who saw a real lack of it for two-year college faculty wishing to pursue developmental programs. Hammons and Jaggard (1976) inadvertently discovered the influence of time when they found faculty desiring that development activities be held on campus or within a short distance and the need for short-term workshops to make skills acquisition more feasible.

The influence of finances was discussed in studies conducted by Centra (1976) and Smith (1980). Centra found grants to be viewed as effective by 75 percent of the academic deans surveyed. Smith found grants to be viewed as effective by 67 percent of the academic deans he surveyed. Garrison (1967) also saw the lack of money available for staff development as a crucial problem. He recommended that funds be allocated for summer staff development programs for faculty with travel and subsistence allowance. Cohen and Braver (1982) saw the availability of public funds for career education as a real advantage for staff development participation by career education faculty.

Incentives were found to be influential by Cohen and Braver (1982), O'Banion (1972b), Hunter and Beyen (1979), and Vogler (1980). Cohen and Braver and O'Banion saw salary schedules which rewarded faculty for attaining degrees and pursuing graduate hours as very influential in staff development participation. They viewed faculty as pursuing those activities more vigorously than activities which were void of financial rewards. Hunter and Beyen (1979) found promotion and

tenure to be one of five areas faculty were concerned with.

Vogler (1980) saw incentives as necessary in order to make faculty want staff development enough to participate.

A review of the literature indicated that the elements of time, money, and incentives were perceived to influence staff development participation. However, the effect those elements had upon staff development involvement was not documented in the literature.

Summary

To date, the emphasis on staff development has been to point out its importance and analyze views and perceptions. A review of the literature did not discover concrete evidence regarding the influence of faculty characteristics such as area of instruction, educational attainment, and years of teaching experience upon participation in different forms of staff development. An area also found to be lacking in study was an examination of the influence of time, finances, and incentives on overall staff development participation rates. If community colleges are to be able to provide staff development programs to keep their faculty professionally active, an understanding of the influence of those factors must exist. Staff development programs should be designed to help and encourage all faculty to pursue continual professional development. If the major resource of the community college is the intellectual capital of its teachers, as suggested by Garrison (1967) and W. R. Richardson (1975), then knowledge and understanding of the influence of variables upon improving that resource must be considered important.

CHAPTER III. METHODS AND PROCEDURES

The purpose of this study was to define staff development; identify and describe staff development activities, sources of funding, and incentives; and test selected variables to analyze staff development participation. With the stabilization of growth in many community colleges and the reduction in staff mobility, the professional development of faculty became an important issue. The role and function of staff development was identified as a concern of community college leaders in order to meet the need of keeping faculty current in their profession.

A review of selected literature indicated a need to study the influence of certain variables on the level of participation by community college faculty in staff development activities. This study examined whether differences in staff development participation among community college faculty existed between the variables of (a) instructional area of faculty, (b) educational attainment of faculty, (c) the years teaching experience of faculty, (d) the time allocated for staff development activities, (e) the type of staff development funding, and (f) incentives to encourage staff development participation.

Sources of Information

This study began in June of 1984, with a review of selected literature in the areas of staff development, inservice training, and faculty development at the post-secondary two-year community college

level. A list of descriptor terms was developed to conduct a search of Current Indexes to Journals in Education (CIJE) and Research in Education (RIE). A periodical literature search was also conducted using the Education Index and the Reader's Guide to Periodical Literature. Dr. Del Shepard provided many additional documents he had secured from an ERIC search on staff development through the Iowa State University library. Copies of Dissertations needed for review were obtained through the ERIC Document Reproduction Service (EDRS) via the Ellsworth Community College Learning Resources Center.

Selection of Population

The population in this study consisted of full-time community college instructors within the Arts and Sciences/General Education and Career Education/Vocational-Technical Education programs at Iowa's 15 post-secondary two-year institutions. These 15 post-secondary two-year institutions comprise the Iowa Community College System.

A computerized random sample list of community college faculty was obtained from the State Department of Public Instruction, Des Moines, Iowa. A 25 percent random sample was obtained from each of three teacher certification groups of full-time certified personnel. The three certification groups consisted of those who were approved for (a) code 71 (post-secondary vocational-technical), (b) code 72 (post-secondary arts and sciences), and (c) both codes 71 and 72. An administrator at each of the 15 post-secondary institutions was contacted to eliminate the names on the list who were not full-time

faculty members since administrators, counselors, and librarians could also be approved for codes 71 and/or 72.

A proposal of this study was submitted to the Human Subjects in Research Committee at Iowa State University to ensure that proper procedures were used to protect the rights and welfare of the respondents. The committee approved the project on November 15, 1984 (see Appendix A).

The survey instrument was pilot tested among eight faculty at Ellsworth Community College. Interviews were conducted with the pilot test subjects to identify needed modifications. Modifications were made to improve the clarity of the instrument.

A cover letter (see Appendix B) was attached to each survey instrument (see Appendix C). The letter included a rationale for the study and an assurance that the information provided would be held in strict confidence in terms of the individual respondents. A self addressed stamped envelope was included with the letter and survey instrument for ease of return. A code number was listed on each instrument for the purpose of follow-up of those persons not responding in a reasonable amount of time. The first digit of the code number identified which certification group the respondent was in. A follow-up letter (see Appendix D) was sent within a week after the return date on the initial letter. The follow-up letter had another survey instrument and a self-addressed stamped envelope enclosed with it.

Data Gathering Instrument

One of the purposes of this study was to analyze staff development participation of community college faculty by testing selected variables. In order to conduct this analysis, an instrument was developed to gather needed data.

The first section of the survey instrument consisted of a list of 25 staff development activities identified in selected literature (see Appendix C). The staff development activities were listed vertically in an order of common type as suggested by Centra (1976) and Smith (1980). Five vertical columns identified A through E were structured to allow for five responses on each of the 25 staff development activities. The respondents were asked to (a) list the number of times they participated in each of the activities during the past calendar year in column A, (b) list the total hours of time spent on each of the activities in column B, (c) mark an X in column C if the activity was conducted exclusively during normal working time as defined by their teaching contract, (d) mark an X in column D if the activity was funded exclusively by personal finances, and (e) mark an X in column E if the activity will lead or led to promotion and/or salary increase. The respondents were asked to leave the columns blank for activities in which they did not participate. The respondents were also instructed not to include travel or commuting time when computing the total hours spent on an activity. The first section of the survey instrument provided data to analyze participation and the variables of time, funding, and incentives.

Demographic Data

Demographic data were gathered in the second section of the survey instrument to assist in the analysis of the information collected in the first section of the instrument. For the purpose of this study, it was necessary to gather demographic data concerning type of certification, level of educational attainment, and years of teaching experience. Since the type of certification could be identified from the computer list, a code number was assigned to each instrument to identify the respondent's type of certification. For that reason, it was not necessary to ask the respondents to indicate their type of certification. The respondents were asked to indicate their level of educational attainment and their total years of teaching experience.

Two additional demographic data items were included in the second section. The two items were years of teaching experience at the community college level, and years of teaching experience at their present institution. Both of these items were included in the event that a further analysis of the variable, teaching experience, was deemed necessary in this study. The demographic data items concerning type of certification, educational attainment, and teaching experience enabled the testing of those variables in this study.

Sampling

The computerized random sample of 25 percent of the teacher certification groups coded 71, 72, and 71 and 72 yielded a list of

370 certified community college personnel. After administrators of the 15 institutions were contacted, 68 names were removed from the list because they were not full-time faculty. The 302 faculty members composing the sample consisted of 174 teachers coded 71, 73 teachers coded 72, and 55 teachers coded 71 and 72. By drawing a 25 percent random stratified sample from each of the three certification groups, all of the groups were equally represented in the total sample.

Data Treatment Analysis

The following procedures were followed to answer the research questions in this study:

1. The null hypotheses were stated (see Chapter I).
2. The statistical tests were selected.
3. The significance levels for rejecting the null hypotheses were determined.
4. The statistical tests were conducted for each hypothesis.
5. The hypotheses were either rejected or affirmed based on the probability level supported by the statistical tests.

This section will begin with the selection of statistical tests since the null hypotheses have been stated in Chapter I. The data were collected and analyzed to determine the differences between the sample means. The hypotheses were stated to compare the mean scores of the variables tested. The statistical tests were selected upon

consideration of the hypotheses, the sampling, and the assumptions concerning the population distributions.

A relatively large sample ($N=302$) was selected from a group that consisted of full-time certified community college faculty in Iowa. Since the selected population was congruent, assumptions of normality and homogeneity of variance were made. Statements can be made about the characteristics of a population when the population sample has been drawn at random (Kerlinger, 1964).

The sample of 302 faculty was selected from a population of 1,208 full-time certified community college faculty in the Arts and Sciences and Vocational-Technical Education programs at the 15 community colleges in Iowa. A total of 187 faculty returned the survey instrument which could be analyzed. Eighteen others were received, but were not completed properly or not completed at all. Of the total 302 instruments sent to faculty, 61.9 percent were returned and analyzed for this study. This resulted in 15.5 percent of the population being used as a basis for this study. The return rate of usable data was composed of the following: (a) 110 faculty certified for code 71 (63.2 percent), (b) 42 faculty certified for code 72 (58.3 percent), and (c) 35 faculty certified for codes 71 and 72 (63.6 percent).

The data collected by the survey instrument were coded for analysis using the Lotus 1-2-3 program on an International Business Machines Personal Computer (IBM-PC). The number of activities and

hours indicated by the respondents for the five categories on the survey instrument were entered for each of the staff development activities. Demographic data were coded numerically.

Sample means were computed for the number of times and the number of hours on each of the staff development activities. Sample percentages were calculated on each of the activities for staff development hours (a) conducted during normal working time, (b) funded by personal finances, and (c) leading to promotion and/or salary increase.

Sums of the means for the sample were computed for the total number of times and total number of hours of staff development participation. Sums of the means were also calculated for the percentage of staff development hours (a) conducted during normal working time, (b) funded by personal finances, and (c) leading to promotion and/or salary increase.

Means of the hours for each of the activities and sums of the means were also computed for (a) Arts and Sciences faculty and Vocational-Technical faculty collectively, (b) Arts and Sciences faculty and Vocational-Technical faculty individually, (c) the six levels of educational attainment, and (d) the six levels of teaching experience. Means of the hours for each of the activities and sums of the means were also calculated for the staff development hours that were (a) conducted during normal working time, (b) conducted outside of normal working time, (c) funded by personal finances, (d) funded

by sources other than personal finances, (e) leading to promotion and/or salary increase, and (f) not leading to promotion and/or salary increase.

A series of statistical tests were conducted to test the null hypotheses stated in this study. One of the hypotheses required the testing of mean differences between two groups of faculty. A t-test can determine if the difference between two means is statistically significant. It is an appropriate test where the data are measured on an interval or ratio scale and normally distributed in each population (Mason & Bramble, 1978). A t-test was computed between Arts and Sciences faculty and Vocational-Technical faculty to determine the significance of the difference between the mean hours of staff development participation. The t-test was also used to determine the significance of the difference between two means within one faculty group. The mean hours of actual participation and the mean hours of the null hypothesis were tested within the total sample for the variables of time, finances, and incentives. The results of the t-test were reported at the bottom of the tables and computed by placing the larger variance over the smaller variance to determine the homogeneity of the F value. The pooled variance estimate was used when the two variances were more homogeneous. When the variances differed greatly, the separate variance estimate was used (Popham & Sirotnik, 1973).

The standard formula for the t-test used in the analysis of these data was as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

where: t = The value by which the statistical significance of the mean difference will be evaluated.

$\bar{X}_1$ = The mean of group 1.

$\bar{X}_2$ = The mean of group 2.

s_1^2 = The variance of group 1.

s_2^2 = The variance of group 2.

n_1 = The number of subjects in group 1.

n_2 = The number of subjects in group 2.

In order to select a statistical test in testing hypotheses, three considerations must be made (Mason & Bramble, 1978): (a) the scale of measurement of the variables, (b) the area of interest in the hypothesis, and (c) the distribution of the data and other reasonable assumptions which can be made about the data. These considerations were followed in selecting statistical tests to analyze the data in this study.

One of the hypotheses required a test to determine if a difference in staff development participation existed between six levels of educational attainment. In order to determine whether a difference in participation existed between the six groups, the amount of participation of each group had to be tested against what the participation would be

if there was no difference. The chi-square (χ^2) test utilizes a two-way classification of the actual data with respect to two non-continuous characteristics (Popham & Sirotnik, 1973) and was used in this study to test the six educational level groups. The value of the chi-square was then tested for significance.

The statistical formula for chi-square is as follows:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

where: χ^2 = chi-square

O = The observed frequencies.

E = The expected frequencies.

$\sum \frac{(O-E)^2}{E}$ = The sum of the observed frequencies minus the expected frequencies squared, and then divided by the expected frequencies.

The observed frequencies were the total hours of staff development participation by each of the six groups. The expected frequencies were the expected hours of staff development participation for each group based upon the group's predicted percentage of the total hours.

The remaining hypothesis to be tested involved determining whether a difference in staff development participation existed between six levels of teaching experience. The six levels of teaching experience were measured in intervals. Since interval data was used, the chi-square test could not be utilized to test this hypothesis. The One-Way Analysis of Variance test can be used to determine whether a significant difference exists between the means of several groups

measured on interval data (Mason & Bramble, 1978). The One-Way Analysis of Variance test was used to test this hypothesis and its formula is illustrated on Table 2 (Popham & Sirotnik, 1973).

The common procedure of using the .05 level of significance to determine the statistical significance of the results was used in this study on all of the tests. The symbol (*) was used in the statistical findings tables for results that were significant at the .05 level.

Summary

This study began in June of 1984 because of the researcher's desire to define staff development and to determine whether selected variables influenced staff development participation. This study was designed to define staff development, identify and describe staff development activities, and test selected variables. Community college faculty were surveyed to compare their amounts of participation and determine if the activities participated in were (a) conducted during normal working time or outside of it, (b) funded by personal finances or other sources, and (c) leading to promotion and/or salary increase or not. The extent of staff development participation was tested to determine if differences existed according to type of teacher certification, educational attainment, and years of teaching experience.

The sample for this study was drawn from Iowa community college faculty who were certified by the Iowa Department of Public Instruction

Table 2. Computational procedures for the One-Way Analysis of Variance

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F-Ration
Between Treatments	t-1	$\sum \frac{(\sum X)^2}{n_g} - \frac{(\sum X)^2}{n}$	$\frac{\sum \frac{(\sum X)^2}{n_g} - \frac{(\sum X)^2}{n}}{t-1}$	F= $\frac{\text{Between Mean Square}}{\text{Within Mean Square}}$
Within Treatments	t(n-1)	$\sum X^2 - \frac{(\sum X)^2}{n}$	$\frac{\sum X^2 - \frac{(\sum X)^2}{n}}{t(n-1)}$	
Total Treatments	tn-1	$\sum X^2 - \frac{(\sum X)^2}{n}$		

where: t-1 = The degrees of freedom for the treatments between the groups under study.

t(n-1) = The degrees of freedom for the treatments within the groups under study.

tn-1 = The total degrees of freedom for the treatment of the groups under study.

$\sum \frac{(\sum X)^2}{n_g}$ = The total of each group's sum of raw scores squared and then divided by the number of subjects in the group (n_g).

$\frac{(\sum X)^2}{n}$ = The sum of all raw scores squared and divided by the total number of subjects (n).

$\sum X^2 - \frac{(\sum X)^2}{n}$ = The raw score sum of squares applied individually to the various subgroups yielding quantities which are then summed.

for community college teaching in Arts and Sciences, Vocational-Technical, and both areas. Three hundred and two questionnaires were sent to faculty with a return of 187 usable survey instruments.

The survey instruments consisted of a list of 25 staff development activities identified in the literature. Respondents were asked to indicate the number of times they participated in each activity, and the total number of hours spent on each activity. Respondents were also asked to indicate if the activity was conducted during normal working time, funded by personal finances, and would lead or led to promotion and/or salary increase.

Demographic data were gathered on each faculty member. Demographic data gathered included (a) type of teacher certification, (b) level of educational attainment, and (c) total years of teaching experience.

The data collected by the questionnaire were coded utilizing the Lotus 1-2-3 program on an IBM-PC. A chi-square test, an analysis of variance test, and four t-tests were computed to test the null hypotheses.

CHAPTER IV. FINDINGS

A primary purpose of this study was to determine the influence of selected variables on faculty participation in staff development activities. The analysis of data collected in this study to determine the influence of selected variables is presented in this chapter. Tables were developed to display the results. Usable data from 187 full-time community college faculty in Iowa were portrayed in this research. This information may be useful for assessing and modifying staff development programs to keep community college faculty professionally active.

Preliminary Analysis of Data

After the survey instruments were returned by the respondents, they were reviewed to determine if they were completed properly. Incomplete instruments were returned to the respondents with a note stating the need for clarification or completeness and a return envelope. The respondents were asked to indicate numerically on two categories for the activities they had participated in out of a possible twenty-five activities identified in the literature. They were also asked to respond to three other categories for the activities they participated in by marking an X if applicable. Upon return of the instruments, it was noted that many of the faculty experienced difficulty in responding to staff development activity number 15, "Participated in individual reading and/or studying". It was determined that 58 respondents used vague or incomplete responses for the activity and

76 faculty did not respond to the activity. The difficulty in responding to the activity was not unique to one group or classification of faculty. This problem was not anticipated since the pilot test did not reveal that possibility. A decision was made to eliminate activity number 15 in the analysis due to apparent respondent confusion over the item.

A similar problem was noted with activity number 24, "Participation in community service work". Thirteen respondents gave vague or incomplete responses to the activity and 85 faculty did not respond to the activity. Since the number of vague or incomplete responses was minimal (7 percent), the data from activity number 24 were included in the findings.

With the exception of activities number 15 and number 24, no other difficulty in completing the survey was detected. Recommendations were made in Chapter V of this study to help alleviate problems of this type in future research.

Selected Characteristics of Responding Faculty

The respondents were asked to indicate their highest level of educational attainment and total years of teaching experience. The instruments were coded prior to mailing in order to identify which faculty were certified for teaching in the areas of Arts and Sciences, Vocational-Technical, or both Arts and Sciences and Vocational-Technical. Table 3 depicts the responses of the faculty indicating their highest level of educational attainment. All of the Arts and Sciences faculty

Table 3. Highest educational level attained by the
Arts and Sciences and Vocational-Technical faculty

Highest Level of Educational Attainment	Arts and Sciences Certification	Vocational-Technical Certification	Arts and Sciences and Vocational-Technical Certification	Total	Percentage
1) High school diploma	0	16	0	16	8.6
2) Associate's degree	0	19	0	19	10.2
3) Bachelor's degree	0	52	6	58	31.0
4) Master's degree	37	17	22	76	40.6
5) Specialist's degree	1	5	2	8	4.3
6) Doctorate degree	4	1	5	10	5.3

held degrees at the master's level or higher; only 21 percent of the Vocational-Technical faculty had a master's degree or higher. The most common degree for Arts and Sciences faculty was the master's degree and the most common degree for Vocational-Technical faculty was the bachelor's degree.

The responses of the faculty to the category of total years of teaching experience are displayed in Table 4. All of the faculty had at least one year of teaching experience. The Arts and Sciences faculty had the most teaching experience, with 71 percent of the group having taught 12 years or more as compared with only 47 percent of the Vocational-Technical faculty having taught that length of time. Only 17 percent of the Arts and Sciences faculty had seven years or less of teaching experience as compared with 34 percent of Vocational-Technical faculty having taught seven years or less.

The respondents were also asked to indicate their total years of teaching experience at the community college level and their total years of teaching experience at their present institution. These demographic items were included in the event that a further analysis of the variable, teaching experience, was needed. Since this study focused on the total years of teaching experience in the analysis of this variable, these two demographic items were not analyzed.

The first step conducted in analyzing the data collected was determining the participation rates of all respondents in staff development. This analysis provided an overview relevant to the

Table 4. Total years of teaching experience of the
Arts and Sciences and Vocational-Technical faculty

Total Years of Teaching Experience	Arts and Sciences Certification	Vocational-Technical Certification	Arts and Sciences and Vocational-Technical Certification	Total	Percentage
1) Less than 1 year of teaching experience	0	0	0	0	0
2) 1-3 years of teaching experience	5	10	3	18	9.6
3) 4-7 years of teaching experience	2	27	5	34	18.2
4) 8-11 years of teaching experience	5	21	9	35	18.7
5) 12-15 years of teaching experience	7	22	7	36	19.3
6) 16 years of teaching experience	23	30	11	64	34.2

hypotheses tested in this study. Mean participation rates for number of activities and number of hours were calculated for all activities (less activity 15). Mean percent of hours (a) conducted during normal working time, (b) financed personally, and (c) leading to promotion and/or salary increase were also computed. The results are portrayed in Table 5.

An analysis of the data revealed an absence of participation by faculty in sabbatical leaves (activity 17). Four other activities were found to have very low rates of participation. These activities were (a) study leaves, (b) institutes, (c) formal assessments by colleagues, and (d) formal assessments by outside specialists. When study leaves were taken, 93 percent of the hours were spent outside of normal working time. Study leaves were always financed by the faculty member, but led to promotion and/or salary increase only 7 percent of the time. Institutes were also attended with 93 percent of the hours spent outside of normal working time. Institutes, however, were financed personally only 46 percent of the time and attending institutes seldom led to promotion and/or salary increase. Formal assessments by colleagues and outside specialists occurred during normal working time for a majority of the hours spent on the activities. These activities did not involve personal finances and rarely led to promotion and/or salary increase.

Four activities were identified as having high participation rates with an average number of 2 or more activities conducted per faculty member. Community service work had the highest participation rate of all staff development activities with an average of nearly 6 activities

Table 5. Participation rates of faculty in staff development

Staff Development Activities	Mean Number of Activities	Mean Number of Hours	Mean Percent of Hours Conducted During Normal Working Time	Mean Percent of Hours Personally Financed	Mean Percent of Hours Leading to Promotion and/or Salary Increase
1. Attended a professional meeting or conference	2.54	17.29	34.5	16.3	5.8
2. Attended a non-professional meeting or retreat	1.05	4.35	31.3	44.2	.0
3. Attended an area or campus sponsored inservice activity	2.25	13.10	83.0	2.6	3.0
4. Attended an off-campus/non-area workshop or seminar	.70	5.19	36.7	36.8	2.7
5. Attended an industry sponsored meeting	.63	2.60	30.8	33.7	3.7
6. Attended an institute	.13	2.25	7.1	45.7	9.5
7. Received a formal teaching evaluation by an administrator	1.07	1.83	89.5	1.2	6.7
8. Received a formal teaching evaluation by students	2.03	1.52	75.1	.0	7.0
9. Received a formal assessment by colleagues	.13	.11	61.9	.0	14.3
10. Conducted a self assessment by videotaping, survey, etc.	.58	.72	32.6	50.4	46.7
11. Received a formal assessment by an outside specialist	.03	.25	87.0	.0	.0

12. Enrolled in course work towards an advanced degree	.52	27.59	3.0	80.8	36.5
13. Enrolled in course work not matriculated to an advanced degree	.47	9.36	10.5	60.9	25.4
14. Enrolled in local campus curriculum offerings	.26	7.13	23.9	30.2	17.8
15. Participated in individual reading and/or studying	--	--	--	--	--
16. Undertook a study leave	.04	3.08	7.0	100.0	7.0
17. Undertook a sabbatical leave	.00	.00	.0	.0	.0
18. Conducted a special project	.31	11.54	30.5	9.2	10.2
19. Attended a field trip	1.20	6.68	67.2	4.4	.0
20. Visited another educational institution	.88	4.16	47.1	39.6	.0
21. Participated in a faculty exchange	1.37	4.60	54.8	2.1	.0
22. Provided internal and/or external professional consultation	1.35	3.17	21.2	37.9	.5
23. Conducted a personal development plan	.33	1.89	26.9	25.8	8.5
24. Participated in community service work	5.87	31.17	1.1	71.6	.0
25. Participated in individual work with a specialist	.45	1.70	7.5	73.3	.0
Mean Number of Activities, Hours, & Percentages (less activity 15)	24.19	161.28	26.2%	43.9%	11.0%
Average Hours for All Activities (less activity 15)		6.67			

and 31 hours of time per faculty member. Community service work occurred during normal working hours 1 percent of the time and was financed personally 72 percent of the time, and never led to promotion and/or salary increase. Attending professional meetings or conferences and area or campus sponsored inservices were also common staff development activities of faculty. Eighty-three percent of the hours spent on area or campus sponsored inservice activities were conducted during normal working time while 53 percent of the hours spent on professional meetings or conferences occurred during normal working time. Both activities were usually financed by sources other than faculty finances and seldom led to promotion and/or salary increase. Faculty members received an average of two formal teaching evaluations by students. Seventy-five percent of the time spent on evaluations by students were conducted during normal working time. Evaluations by students did not involve faculty finances and led to promotion and/or salary increase 7 percent of the time. Community service work, professional meetings or conferences, area or campus sponsored inservice activities, and formal teaching evaluations by students accounted for 52 percent of the total mean number of staff development activities participated in by community college faculty.

Four activities had low participation rates for mean number of activities. However, those faculty who did choose these activities spent a large amount of time per activity. Course work towards an advanced degree was the most time demanding of all the staff development

activities with an average of .52 activities and 27.59 hours per faculty member. By dividing the mean hours by the mean activities, it was determined that course work towards an advanced degree averaged 53 hours per activity. Only 3 percent of the hours spent on course work towards an advanced degree were conducted during normal working time and 81 percent of the costs were financed personally. Course work towards an advanced degree had the second highest percentage of time, 37 percent, leading to promotion and/or salary increase. Course work not matriculated to an advanced degree was conducted 11 percent of the time during normal working hours, financed by faculty 6 percent of the time, and led to promotion and/or salary increase 25 percent of the time. Local campus curriculum offerings and special projects were other activities that had low participation rates but were activities that participating faculty spent a large amount of time per activity. Course work towards an advanced degree, course work not matriculated to an advanced degree, local campus curriculum offerings, and special projects accounted for 6 percent of the total mean number of staff development activities, but these activities composed 34 percent of the total mean hours of staff development participation by faculty.

Five other staff development activities had involvement averaging at least one activity per faculty member. These were (a) non-professional meetings or retreats, (b) formal teaching evaluations by an administrator, (c) field trips, (d) faculty exchanges, and (e) professional consultations. Formal teaching evaluations by an administrator, field

trips, and faculty exchanges were more often conducted during normal working time than were professional consultations and non-professional meetings or retreats. Formal teaching evaluations by an administrator, field trips, and faculty exchanges had lower percentages of hours financed by faculty than did professional consultations and non-professional meetings or retreats. Non-professional meetings or retreats, field trips, and faculty exchanges were never viewed as leading to promotion and/or salary increase and formal teaching evaluations by an administrator and professional consultations were seldom seen as a means to promotion and/or salary increase.

The remaining six staff development activities had participation rates lower than an average of one activity per faculty member. These activities were (a) off-campus/non-area workshops or seminars, (b) industry sponsored meetings, (c) self-assessments, (d) visits to other educational institutions, (e) personal development planning, and (f) individual work with specialists. These six activities were usually conducted outside of normal working time. Off-campus/non-area workshops or seminars, industry sponsored meetings, visits to other educational institutions, and personal development planning were more often funded by sources other than faculty. Self-assessments were financed by faculty 50 percent of the time and individual work with specialists was financed by faculty 73 percent of the time. Off-campus/non-area workshops or seminars, industry sponsored meetings, and personal development planning seldom led to promotion and/or salary

increase while individual work with specialists never led to promotion and/or salary increase. Self-assessments were viewed by faculty as leading to promotion and/or salary increase 46 percent of the time.

Five activities were identified as having over 10 mean hours of participation. These activities were (a) professional meetings or conferences, (b) area or campus sponsored inservices, (c) course work towards an advanced degree, (d) special projects, and (e) community service work. These activities accounted for 62 percent of the total hours of participation in staff development.

Summarizing the participation of faculty in staff development, faculty participated at a mean rate of 24.19 activities and devoted a mean total of 161.28 hours on those activities. An average of 6.67 hours were spent per activity. Twenty-six percent of the staff development activities were conducted during normal working time. Forty-four percent of the activities were financed personally by faculty members. Only 11 percent of the activities were perceived to lead to promotion and/or salary increase. The analysis of staff development participation by all faculty portrayed in Table 5 provided an overview for the testing of the hypotheses in this study.

The procedure used to report the findings from the testing of each hypothesis was to:

1. Restate each hypothesis.
2. Display the tables for the statistical tests on each hypothesis.

3. Explain the results.

Mean hours for each activity (less activity 15) were portrayed on the tables. The total of mean hours for all activities (less activity 15), average hours for all activities (less activity 15), and the results of the statistical tests appear at the bottom of the tables.

Comparison between Arts and Sciences and Vocational-Technical Faculty

Hypothesis 1: The extent of staff development participation among faculty did not vary according to type of teacher certification.

The responses of Arts and Sciences certified faculty and Vocational-Technical certified faculty are portrayed in Table 6. Faculty certified for both Arts and Sciences and Vocational-Technical instruction were not included in the testing of this hypothesis and were not represented in the findings.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study would be needed to determine if relationships existed among Arts and Sciences faculty and Vocational-Technical faculty and their participation in various staff development activities.

In comparing the total of mean hours for all activities (less activity 15) for the two groups, Vocational-Technical faculty were found

Table 6. Mean hours of participation in staff development among Arts and Sciences certified faculty and Vocational-Technical certified faculty

Staff Development Activities	Arts and Sciences Certified Faculty and Vocational-Technical Certified Faculty	Arts and Sciences Certified Faculty	Vocational- Technical Certified Faculty
1. Attended a professional meeting or conference	10.38	20.45	17.58
2. Attended a non-professional meeting or retreat	4.20	7.45	2.96
3. Attended an area or campus sponsored inservice activity	13.72	13.60	13.76
4. Attended an off-campus/non-area workshop or seminar	9.94	2.88	7.11
5. Attended an industry sponsored meeting	2.76	.43	3.63
6. Attended an institute	2.00	1.19	2.31
7. Received a formal teaching evaluation by an administrator	1.97	1.41	1.42
8. Received a formal teaching evaluation by students	1.56	1.69	1.91
9. Received a formal assessment by colleagues	.11	.18	.10
10. Conducted a self assessment by videotaping, survey, etc.	.80	.43	.94
11. Received a formal assessment by an outside specialist	.30	.00	.40
12. Enrolled in course work towards an advanced degree	27.04	5.76	39.16
13. Enrolled in course work not matriculated to an advanced degree	9.47	3.33	11.80
14. Enrolled in local campus curriculum offerings	7.84	5.74	8.64
15. Participated in individual reading and/or studying	--	--	--
16. Undertook a study leave	.49	.00	.68
17. Undertook a sabbatical leave	.00	.00	.00
18. Conducted a special project	9.03	16.43	6.20
19. Attended a field trip	6.80	1.88	8.68
20. Visited another educational institution	3.91	4.88	3.94
21. Participated in a faculty exchange	1.67	.10	5.04
22. Provided internal and/or external professional consultation	1.24	6.19	2.12
23. Conducted a personal development plan	1.76	1.04	1.93
24. Participated in community service work	30.97	47.21	24.21
25. Participated in individual work with a specialist	1.66	1.88	1.58
Total of Mean Hours for All Activities (less activity 19)	157.22	146.35	161.38
Average Hours for All Activities (less activity 19)	6.55	6.10	6.72

F Value = .4759

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to have more total mean hours; however, a t-test determined that the difference was not significant at the .05 level. Based upon the results of the statistical test, the decision was made to affirm the null hypothesis. The extent of staff development participation among faculty did not vary according to type of teacher certification.

Comparison between Faculty with Different
Levels of Educational Attainment

Hypothesis 2: The extent of staff development participation among faculty was not associated with the educational attainment of faculty members.

The mean hours of participation in staff development stratified by levels of educational attainment are presented in Table 7. The responses of all faculty are included in the analysis.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study would be needed to determine if relationships existed among faculty stratified by levels of educational attainment and their participation in various staff development activities.

In comparing the total of mean hours for all activities (less activity 15) in staff development stratified by levels of educational attainment, faculty with doctorate degrees had the greatest total of mean hours of participation and the greatest average hours for all activities. Faculty with a high school diploma being their highest

Table 7. Mean hours of participation in staff development stratified by levels of educational attainment

Staff Development Activities	HIGHEST EDUCATIONAL LEVEL ATTAINED						
	All Faculty	High School Diploma	Associate Degree	Bachelor's Degree	Master's Degree	Specialist's Degree	Doctorate Degree
1. Attended a professional meeting or conference	17.29	8.94	12.11	17.69	19.00	34.75	11.20
2. Attended a non-professional meeting or retreat	4.35	4.19	1.68	2.62	5.99	2.88	8.50
3. Attended an area or campus sponsored inservice activity	13.10	12.19	12.95	13.95	13.26	15.25	6.90
4. Attended an off-campus/non-area workshop or seminar	5.19	5.94	8.89	5.71	3.12	10.75	5.20
5. Attended an industry sponsored meeting	2.60	7.38	.95	3.47	1.59	3.63	.00
6. Attended an institute	2.25	.75	2.53	2.79	2.13	4.50	.00
7. Received a formal teaching evaluation by an administrator	1.83	1.88	1.16	1.21	2.53	1.00	2.00
8. Received a formal teaching evaluation by students	1.52	1.13	.89	1.41	1.86	.75	2.10
9. Received a formal assessment by colleagues	.11	.06	.16	.09	.14	.13	.00
10. Conducted a self assessment by videotaping, survey, etc.	.72	.50	.68	1.38	.43	.00	.10
11. Received a formal assessment by an outside specialist	.25	1.31	.00	.02	.00	3.00	.00
12. Enrolled in course work towards an advanced degree	27.59	5.44	35.37	44.47	18.08	9.00	37.50

13. Enrolled in course work not matriculated to an advanced degree	9.36	20.19	15.00	9.05	7.18	.00	7.20
14. Enrolled in local campus curriculum offerings	7.13	6.56	18.05	5.24	6.70	9.00	.00
15. Participated in individual reading and/or studying	--	--	--	--	--	--	--
16. Undertook a study leave	3.08	.00	.00	1.29	.00	.00	50.00
17. Undertook a sabbatical leave	.00	.00	.00	.00	.00	.00	.00
18. Conducted a special project	11.54	.00	.84	9.88	17.28	.75	25.00
19. Attended a field trip	6.68	11.88	9.58	7.33	5.41	2.75	1.90
20. Visited another educational institution	4.16	1.75	2.21	2.48	5.14	8.25	10.60
21. Participated in a faculty exchange	4.60	7.94	2.32	5.22	1.00	1.38	30.00
22. Provided internal and/or external professional consultation	3.17	3.69	.79	1.74	3.76	10.50	4.80
23. Conducted a personal development plan	1.89	1.31	.89	1.45	2.76	.13	2.00
24. Participated in community service work	31.17	25.63	21.84	28.22	39.04	19.75	24.10
25. Participated in individual work with a specialist	1.70	3.75	.00	.76	1.89	.00	7.00
Total of Mean Hours for All Activities (less activity 15)	161.28	132.41	148.89	167.47	158.29	138.15	236.10
Average Hours for All Activities (less activity 15)	6.72	5.52	6.20	6.98	6.60	5.76	9.84

level of educational attainment had the lowest total of mean hours of participation and the lowest average hours for all activities (less activity 15) in staff development than did other faculty stratified by levels of educational attainment.

The results of a chi-square analysis of the six groups of faculty stratified by levels of educational attainment are presented in Table 8. It was observed that faculty with the highest level of educational attainment being a bachelor's degree or a doctorate degree had more total hours of participation than expected. Faculty having other levels of educational attainment had less hours of participation than expected. The greatest difference between actual hours of participation and expected hours of participation was found for faculty with doctorate degrees. The chi-square analysis determined that the difference between the observed frequency and the expected frequency of at least one group was significant at the .05 level. Based upon the results of the statistical test, a decision was made to reject the null hypothesis. The extent of staff development participation among faculty was associated with the educational attainment of faculty members. Faculty with doctorate degrees had the greatest amount of participation in staff development while faculty with a high school diploma as their highest level of educational attainment had the least amount of participation in staff development.

Table 8. Chi-square analysis of participation in staff development stratified by levels of educational attainment

Levels of Educational Attainment	Hours of Observed Participation	Hours of Expected Participation	Number of Respondents	Percentage of Total Number of Respondents
High School Diploma	2,118	2,578	16	8.55
Associate Degree	2,829	3,064	19	10.16
Bachelor's Degree	9,713	9,355	58	31.02
Master's Degree	12,031	12,256	76	40.64
Specialist's Degree	1,105	1,291	8	4.28
Doctorate Degree	2,361	1,613	10	5.35
Total	30,157	30,157	187	100.00
df = 5			chi-square = 44.46*	

Comparison between Faculty with Varying
Levels of Teaching Experience

Hypothesis 3: The extent of staff development participation among faculty did not vary according to the years of teaching experience of the individual faculty member.

The mean hours of participation in staff development stratified by total years of teaching experience are portrayed in Table 9. Since no faculty had less than one year of teaching experience, a category for less than one year of teaching experience was omitted. The responses of all faculty are included in the analysis.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study would be needed to determine if relationships existed among faculty stratified by total years of teaching experience and their participation in various staff development activities.

An Analysis of Variance test determined that the difference between the hours of participation among any two faculty groups stratified by total years of teaching experience was not significant at the .05 level. Based upon the results of the statistical test, the decision was made to affirm the null hypothesis. The extent of staff development participation among faculty did not vary according to the years of teaching experience of the individual faculty member.

Table 9. Mean hours of participation in staff development stratified by total years of teaching experience

Staff Development Activities	Total Years of Teaching Experience					
	All Faculty	1-3 Years	4-7 Years	8-11 Years	12-15 Years	16 or More Years
1. Attended a professional meeting or conference	17.29	13.00	17.20	14.10	18.60	19.40
2. Attended a non-professional meeting or retreat	4.35	1.33	3.58	8.48	2.61	4.32
3. Attended an area or campus sponsored inservice activity	13.10	11.30	13.50	14.70	10.50	13.90
4. Attended an off-campus/non-area workshop or seminar	5.19	10.20	4.94	2.45	6.66	4.56
5. Attended an industry sponsored meeting	2.60	.00	2.00	2.94	2.38	3.59
6. Attended an institute	2.25	3.11	2.00	2.40	2.22	2.06
7. Received a formal teaching evaluation by an administrator	1.83	1.77	1.32	1.40	1.33	2.62
8. Received a formal teaching evaluation by students	1.52	1.61	1.38	1.22	1.80	1.57
9. Received a formal assessment by colleagues	.11	.05	.11	.02	.16	.14
10. Conducted a self assessment by videotaping, survey, etc.	.72	.16	.35	.40	.58	1.32
11. Received a formal assessment by an outside specialist	.25	.00	.00	.42	.00	.48

12. Enrolled in course work towards an advanced degree	27.59	33.60	57.90	28.10	33.00	5.51
13. Enrolled in course work not matriculated to an advanced degree	9.36	11.30	22.60	5.54	6.22	5.59
14. Enrolled in local campus curriculum offerings	7.13	6.55	7.41	14.80	6.61	3.20
15. Participated in individual reading and/or studying	--	--	--	--	--	--
16. Undertook a study leave	3.08	.00	1.17	.00	14.80	.00
17. Undertook a sabbatical leave	.00	.00	.00	.00	.00	.00
18. Conducted a special project	11.54	7.22	9.41	14.40	3.02	17.10
19. Attended a field trip	6.68	4.16	9.08	5.54	3.44	8.54
20. Visited another educational institution	4.16	3.00	2.44	7.45	3.27	4.07
21. Participated in a faculty exchange	4.60	3.33	2.00	2.48	9.44	4.78
22. Provided internal and/or external professional consultation	3.17	2.05	.82	6.17	2.08	3.70
23. Conducted a personal development plan	1.89	.44	.38	2.60	2.00	2.64
24. Participated in community service work	31.17	11.60	14.80	41.20	20.40	45.80
25. Participated in individual work with a specialist	1.70	.00	.00	3.00	2.19	2.09
Total of Mean Hours for All Activities (less activity 15)	161.28	125.78	174.39	179.81	153.31	156.98
Average Hours for All Activities (less activity 15)	6.72	5.24	7.27	7.49	6.39	6.54

F Value = .3107

Comparison of Staff Development Participation between
Activities Conducted During Normal Working Time and
Activities Conducted Outside of Normal Working Time

Hypothesis 4: The extent of staff development participation among faculty did not vary between activities conducted during normal working time and those conducted outside of normal working time.

The mean hours of participation in staff development between activities conducted during normal working time and those conducted outside of normal working time are portrayed in Table 10. The responses of all faculty are included in the analysis.

An examination was conducted of the five activities that had the greatest mean hours of total participation (professional meetings or conferences, area or campus sponsored inservices, course work towards an advanced degree, special projects, and community service work). It was discovered that the five activities accounted for a total of 100.69 mean hours or 62 percent of total participation in staff development. Seventy-nine percent of the hours spent on the five activities with the greatest mean hours of participation were conducted outside of normal working time.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study would be needed to determine if relationships existed among various

Table 10. Mean hours of participation in staff development between activities conducted during normal working time and those conducted outside of normal working time

Staff Development Activities	Total Participation	Participation During Normal Working Time	Participation Outside of Normal Working Time
1. Attended a professional meeting or conference	17.29	5.97	11.32
2. Attended a non-professional meeting or retreat	4.35	1.36	2.99
3. Attended an area or campus sponsored inservice activity	13.10	10.87	2.23
4. Attended an off-campus/non-area workshop or seminar	5.19	1.91	3.28
5. Attended an industry sponsored meeting	2.60	.80	1.80
6. Attended an institute	2.25	.16	2.09
7. Received a formal teaching evaluation by an administrator	1.83	1.64	.19
8. Received a formal teaching evaluation by students	1.52	1.14	.38
9. Received a formal assessment by colleagues	.11	.07	.04
10. Conducted a self assessment by videotaping, survey, etc.	.72	.23	.49
11. Received a formal assessment by an outside specialist	.25	.22	.03
12. Enrolled in course work towards an advanced degree	27.59	.84	26.75

13. Enrolled in course work not matriculated to an advanced degree	9.36	.98	8.38
14. Enrolled in local campus curriculum offerings	7.13	1.70	5.43
15. Participated in individual reading and/or studying	--	--	--
16. Undertook a study leave	3.08	.22	2.86
17. Undertook a sabbatical leave	.00	.00	.00
18. Conducted a special project	11.54	3.52	8.02
19. Attended a field trip	6.68	4.49	2.19
20. Visited another educational institution	4.16	1.96	2.20
21. Participated in a faculty exchange	4.60	2.52	2.08
22. Provided internal and/or external professional consultation	3.17	.67	2.50
23. Conducted a personal development plan	1.89	.51	1.38
24. Participated in community service work	31.17	.34	30.83
25. Participated in individual work with a specialist	1.70	.13	1.57
Total of Mean Hours for All Activities (less activity 15)	161.28	42.25	119.03
Average Hours for All Activities (less activity 15)	6.72	1.76	4.96

F Value = 12.03*

staff development activities and whether they were conducted during normal working time or outside of normal working time.

In summarizing the results of this analysis, it was discovered that 26 percent of the total hours spent on staff development were conducted during normal working time and 73 percent of the total hours spent on staff development were conducted outside of normal working time. A t-test determined that the difference in staff development participation among faculty between activities conducted during normal working time and those conducted outside of normal working time was significant at the .05 level. Based upon the results of the statistical test, the decision was made to reject the null hypothesis. The extent of staff development participation among faculty did vary between activities conducted during normal working time and those conducted outside of normal working time. Faculty devoted more hours of participation in staff development activities that occurred outside of normal working time than during normal working time.

Comparisons of Staff Development Participation
between Activities Funded by Personal Finances
and Activities Funded by Sources Other
than Personal Finances

Hypothesis 5: The extent of staff development participation among faculty did not vary between activities funded by personal finances and those funded by other sources.

The mean hours of participation in staff development between activities funded by personal finances and those funded by other

sources are displayed in Table 11. The responses of all faculty are included in the analysis.

An investigation was made of the five activities that had the greatest mean hours of total participation (professional meetings or conferences, area or campus sponsored inservices, course work towards an advanced degree, special projects, and community service work). These five activities totaled 100.69 mean hours or 62 percent of the total participation in staff development. Fifty-two percent of the hours spent on the five activities with the greatest mean hours of participation were funded by sources other than personal finances.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study would be needed to determine if relationships existed among various staff development activities and whether they were funded by the personal finances of faculty or funded by other sources.

In summarizing the results of this analysis, it was determined that 44 percent of the total hours spent on staff development were funded by personal finances and 56 percent of the total hours spent on staff development were funded by sources other than personal finances. A t-test determined that the difference in staff development participation among faculty between activities funded by personal finances and those funded by sources other than personal finances was not significant at the .05 level. Based upon the results of the statistical test, the null

Table 11. Mean hours of participation in staff development between activities funded by personal finances and those funded by other sources

Staff Development Activities	Total Participation	Participation Funded by Personal Finances	Participation Funded by Sources Other than Personal Finances
1. Attended a professional meeting or conference	17.29	2.82	14.47
2. Attended a non-professional meeting or retreat	4.35	1.92	2.43
3. Attended an area or campus sponsored inservice activity	13.10	.34	12.76
4. Attended an off-campus/non-area workshop or seminar	5.19	1.91	3.28
5. Attended an industry sponsored meeting	2.60	.88	1.72
6. Attended an institute	2.25	1.03	1.22
7. Received a formal teaching evaluation by an administrator	1.83	.02	1.81
8. Received a formal teaching evaluation by students	1.52	.00	1.52
9. Received a formal assessment by colleagues	.11	.00	.11
10. Conducted a self assessment by videotaping, survey, etc.	.72	.36	.36
11. Received a formal assessment by an outside specialist	.25	.00	.25

12. Enrolled in course work towards an advanced degree	27.59	22.31	5.28
13. Enrolled in course work not matriculated to an advanced degree	9.36	5.71	3.65
14. Enrolled in local campus curriculum offerings	7.13	2.15	4.98
15. Participated in individual reading and/or studying	--	--	--
16. Undertook a study leave	3.08	3.08	.00
17. Undertook a sabbatical leave	.00	.00	.00
18. Conducted a special project	11.54	1.06	10.48
19. Attended a field trip	6.68	.29	6.39
20. Visited another educational institution	4.16	1.65	2.51
21. Participated in a faculty exchange	4.60	.10	4.50
22. Provided internal and/or external professional consultation	3.17	1.20	1.97
23. Conducted a personal development plan	1.89	.49	1.40
24. Participated in community service work	31.17	22.30	8.87
25. Participated in individual work with a specialist	1.70	1.25	.45
Total of Mean Hours for All Activities (less activity 15)	161.28	70.87	90.41
Average Hours for All Activities (less activity 15)	6.72	2.95	3.77

F Value = -.8785

hypothesis was affirmed. The extent of staff development participation among faculty did not vary between activities funded by personal finances and those funded by other sources.

Comparison of Staff Development Participation between
Activities Which Led to Promotion and/or Salary
Increase and Activities Which Did Not Lead to
Promotion and/or Salary Increase

Hypothesis 6: The extent of staff development participation among faculty did not vary between activities which led to promotion and/or salary increase and those that did not.

A comparison of the mean hours of participation in staff development between activities which led to promotion and/or salary increase and those that did not are presented in Table 12. The responses of all faculty are included in the analysis.

An analysis was made of the five activities that had the greatest mean hours of total participation (professional meetings or conferences, area or campus sponsored inservices, course work towards an advanced degree, special projects, and community service work). These activities accounted for 100.69 mean hours or 62 percent of the total participation in staff development. Thirteen percent of the hours spent on these five activities were reported to lead to promotion and/or salary increase.

The testing of faculty participation rates among individual staff development activities was not an objective of this study, and the significance of those differences was not determined. Further study

Table 12. Mean hours of participation in staff development between activities which led to promotion and/or salary increase and those that did not

Staff Development Activities	Total Participation	Participation which led to promotion and/or salary increase	Participation which did not lead to promotion and/or salary increase
1. Attended a professional meeting or conference	17.29	1.01	16.28
2. Attended a non-professional meeting or retreat	4.35	.00	4.35
3. Attended an area or campus sponsored inservice activity	13.10	.40	12.70
4. Attended an off-campus/non-area workshop or seminar	5.19	.14	5.05
5. Attended an industry sponsored meeting	2.60	.10	2.50
6. Attended an institute	2.25	.22	2.03
7. Received a formal teaching evaluation by an administrator	1.83	.12	1.71
8. Received a formal teaching evaluation by students	1.52	.10	1.42
9. Received a formal assessment by colleagues	.11	.01	.10
10. Conducted a self assessment by videotaping, survey, etc.	.72	.34	.38
11. Received a formal assessment by an outside specialist	.25	.00	.25

12. Enrolled in course work towards an advanced degree	27.59	10.06	17.53
13. Enrolled in course work not matriculated to an advanced degree	9.36	2.37	6.99
14. Enrolled in local campus curriculum offerings	7.13	1.27	5.86
15. Participated in individual reading and/or studying	--	--	--
16. Undertook a study leave	3.08	.22	2.86
17. Undertook a sabbatical leave	.00	.00	.00
18. Conducted a special project	11.54	1.18	10.36
19. Attended a field trip	6.68	.00	6.68
20. Visited another educational institution	4.16	.00	4.16
21. Participated in a faculty exchange	4.60	.00.	4.60
22. Provided internal and/or external professional consultation	3.17	.02	3.15
23. Conducted a personal development plan	1.89	.16	1.73
24. Participated in community service work	31.17	.00	31.17
25. Participated in individual work with a specialist	1.70	.00	1.70
Total of Mean Hours for All Activities (less activity 15)	161.28	17.72	143.56
Average Hours for All Activities (less activity 15)	6.72	.74	5.98

F Value = -18.35*

would be needed to determine if relationships existed among various staff development activities and whether they led to promotion and/or salary increase or did not.

In summarizing the results of this analysis, it was determined that 11 percent of the total hours spent on staff development led to promotion and/or salary increase, and that 89 percent of the total hours spent on staff development did not lead to promotion and/or salary increase. A t-test determined that the difference in staff development participation among faculty between activities which led to promotion and/or salary increase and those that did not was significant at the .05 level. Based upon the results of the statistical test, the null hypothesis was rejected. The extent of staff development participation among faculty did vary between activities which led to promotion and/or salary increase and those that did not. Faculty devoted more hours of participation in staff development activities that did not lead to promotion and/or salary increase than those activities that did.

Summary

The responses of 187 Iowa community college faculty were analyzed and reported in this chapter. The faculty were asked to respond to 25 staff development activities identified in the literature by indicating the number of times they participated in each activity during the past year and the total hours of participation for each activity. The faculty were also asked to indicate if each of the activities they participated in were (a) conducted during normal working time, (b) funded by personal

finances, and (c) leading or led to promotion and/or salary increase. Demographic data gathered included teacher certification, highest level of educational attainment, and total years of teaching experience.

Five activities were identified as having over 10 mean hours of of total participation. These activities were (a) professional meetings or conferences, (b) area or campus sponsored inservices, (c) course work towards an advanced degree, (d) special projects, and (e) community service work. These activities accounted for 62 percent of the total hours of participation in staff development. An analysis of the data determined that a faculty member engaged in an average of 24.19 activities and devoted an average 161.28 hours of total participation in staff development, spending an average of 6.67 hours on each activity.

It was discovered that (a) 26.2 percent of the total hours of participation were conducted during normal working time, (b) 43.9 percent of the total hours of participation were financed by faculty sources, and (c) 11 percent of the total hours of participation led to promotion and/or salary increase.

Comparisons of faculty involvement in staff development were made by analyzing the participation of faculty grouped by three different classifications. Faculty participation was analyzed according to (a) type of teacher certification, (b) level of educational attainment, and (c) total years of teaching experience. A null hypothesis was tested on each comparison of faculty grouped by the three different classifications. One null hypothesis was rejected and two null hypotheses

were affirmed. It was discovered that the extent of staff development participation among faculty (a) did not vary according to type of teacher certification, (b) was associated with the educational attainment of faculty members, and (c) did not vary according to the years of teaching experience of the individual faculty member. Faculty with doctorate degrees had the greatest amount of participation in staff development while faculty with a high school diploma as their highest level of educational attainment had the least amount of participation in staff development.

Comparisons of faculty involvement in staff development were also made by analyzing the effect of the three variables of time, finances, and incentives on participation. A null hypothesis was tested on each of the three variables. Two null hypotheses were rejected, and one null hypothesis was affirmed. It was discovered that the extent of staff development participation among faculty (a) did vary between activities conducted during normal working time and those conducted outside of normal working time, (b) did not vary between activities funded by personal finances and those funded by other sources, and (c) did vary between activities which led to promotion and/or salary increase and those that did not. More hours of participation in staff development occurred outside of normal working time than during normal working time. Faculty devoted more hours of participation in staff development activities that did not lead to promotion and/or salary increase than those activities that did.

The data were displayed on tables and the results of the analyses were discussed. The null hypotheses were either rejected or affirmed based upon the results of the statistical tests.

CHAPTER V. SUMMARY, CONCLUSIONS,
DISCUSSION, AND RECOMMENDATIONS

Summary

Purpose

The expressed purpose of this investigation was threefold:
(a) to define staff development; (b) to identify and describe staff development activities, sources of funding, and incentives, through a review of selected literature; and (c) to test selected variables. This study determined whether the extent of community college faculty participation in staff development activities varied according to (a) the instructional area of faculty, (b) the educational attainment of faculty, (c) the years of teaching experience of faculty, (d) the time allocated for staff development activities, (e) the type of staff development funding, and (f) incentives to encourage staff development participation. This research determined the influence of selected variables on staff development participation and provided information on faculty behavior relative to staff development activities which may be used to assess and modify college programs to encourage faculty to keep professionally active.

Methods and Procedures

A review of selected literature was conducted in the areas of staff development, inservice training, and faculty development at the post-secondary two-year community college level. Commentaries on the importance and the purposes of staff development and the developmental

needs of faculty were reviewed. Literature (a) describing, defining, and identifying staff development and staff development activities, (b) identifying types of institutional support for faculty development, and (c) examining differences in staff development participation among faculty and the influence of time, finances, and incentives on staff development participation was read and analyzed. Staff development was defined, and staff development activities, sources of funding, and incentives were identified and described. A questionnaire was developed from 25 staff development activities identified in the literature and demographic questions deemed necessary for the analysis of the data. A proposal of the study was submitted and approved by the Use of Human Subjects in Research Committee at Iowa State University. The sample of 302 faculty was selected from a population of 1,208 full-time certified community college faculty in the Arts and Sciences and Vocational-Technical Education programs at the 15 community colleges in Iowa.

A total of 187 faculty completed questionnaires which were usable data in the analysis. The faculty responded to a list of 25 staff development activities by indicating the number of times they participated in each activity and the number of total hours spent on each activity during the year. The faculty were also asked to indicate if each of the activities was: (a) conducted during normal working time, (b) funded by personal finances, and (c) leading or led to promotion and/or salary increase. Demographic data were gathered on type of teacher

certification, highest level of educational attainment, and total years of teaching experience.

Demographic data were also gathered on faculty for total years of teaching experience at the community college level and total years of teaching at their present institution; however, these data were not used for comparison in this study. Comparisons were made of faculty participation in staff development by area of instruction, educational level, and total years of teaching experience. Comparisons were also made of faculty participation in staff development influenced by the variables of time, finances, and incentives.

Six null hypotheses were tested to determine if differences in participation were significant between (a) Arts and Sciences and Vocational-Technical faculty, (b) faculty stratified by highest level of educational attainment, (c) faculty stratified by total years of teaching experience, (d) activities conducted during normal working time and activities conducted outside of normal working time, (e) activities funded by personal finances and activities funded by other sources, and (f) activities leading or which led to promotion and/or salary increase and activities that did not. Mean participation rates were computed for all individual activities and the total participation in all activities.

The data from the completed questionnaires were entered on a Lotus 1-2-3 program for an IBM-PC. The statistical procedures used to test the hypotheses included the t-test, Analysis of Variance, and

chi-square. Data from the computer printouts were transferred to tables for each hypothesis, and the tables were used for discussion and further analysis.

This study examined staff development participation as self-reported by the subjects. This research method provided for analyses of data based on actual behavior as self-reported rather than analyses of data based on the perceptions of other people.

Findings

The findings presented in Chapter IV of this study were organized under the following headings: (a) comparisons between Arts and Sciences and Vocational-Technical faculty, (b) comparisons between faculty with different levels of educational attainment, (c) comparisons between faculty with varying levels of teaching experience, (d) comparisons of staff development participation between activities conducted during normal working time and activities conducted outside of normal working time, (e) comparisons of staff development participation between activities funded by personal finances and activities funded by sources other than personal finances, and (f) comparisons of staff development participation between activities which led to promotion and/or salary increase and activities which did not lead to promotion and/or salary increase. The null hypothesis tested in each comparison was stated and the results displayed at the bottom of the tables.

The results from one activity, "Participation in individual reading and/or studying" (activity 15), were not used in the study because of a high number of vague or incomplete responses. The activity also was not included in computing the average number of hours per activity. It was discovered that no faculty had participated in the activity, "Undertook a sabbatical leave" (activity 17); however, the activity was counted in the computation of average hours per activity.

Comparison between Arts and Sciences and Vocational-Technical faculty A null hypothesis was tested to determine if the extent of staff development participation varied according to type of teacher certification. The respondents were categorized into three groups: (a) faculty certified for Arts and Sciences instruction, (b) faculty certified for Vocational-Technical instruction, and (c) faculty certified for both Arts and Sciences and Vocational-Technical instruction. Responses from faculty certified for Arts and Sciences instruction and faculty certified for Vocational-Technical instruction were analyzed in this comparison. Faculty certified for both areas of instruction were not included in this analysis. Vocational-Technical faculty were found to have more total mean hours of staff development participation, but the difference was not significant.

Comparison between faculty with different levels of educational attainment A null hypothesis was tested to determine if the extent of staff development participation was associated with the educational attainment of faculty members. All respondents were sub-divided into

six groups according to their highest level of educational attainment. The six groups were: (a) High School diploma, (b) Associate degree, (c) Bachelor's degree, (d) Master's degree, (e) Specialist's degree, and (f) Doctorate degree. The extent of staff development participation among faculty was found to be associated with the educational attainment of faculty members.

Comparison between faculty with varying levels of teaching experience A null hypothesis was tested to determine if the extent of staff development participation varied according to the years of teaching experience of the individual faculty member. All respondents were sub-divided into six groups according to their total years of teaching experience. The six groups were categorized: (a) less than 1 year of teaching experience, (b) 1 to 3 years of teaching experience, (c) 4 to 7 years of teaching experience, (d) 8 to 11 years of teaching experience, (e) 12 to 15 years of teaching experience, and (f) 16 or more years of teaching experience. Since no respondents had less than one year of teaching experience, the first category was omitted in the analysis. Faculty with 8 to 11 total years of teaching experience were found to have more total mean hours of staff development participation, but the difference was not significant.

Comparison of staff development participation between activities conducted during normal working time and activities conducted outside of normal working time A null hypothesis was tested to determine if the extent of staff development participation varied between activities

conducted during normal working time and those conducted outside of normal working time. The responses from all faculty were included in this comparison. The extent of staff development participation among faculty was found to vary between activities conducted during normal working time and those conducted outside of normal working time.

Comparison of staff development participation between activities funded by personal finances and activities funded by sources other than personal finances A null hypothesis was tested to determine if the extent of staff development participation varied between activities funded by personal finances and those funded by other sources. The responses from all faculty were included in this comparison. More hours of staff development participation were found to have been funded by sources other than the personal finances of faculty; but the difference was not significant.

Comparison of staff development participation between activities which led to promotion and/or salary increase and activities which did not lead to promotion and/or salary increase A null hypothesis was tested to determine if the extent of staff development participation varied between activities which led to promotion and/or salary increase and those that did not. The responses from all faculty were included in this comparison. The extent of staff development participation among faculty was found to vary between activities which led to promotion and/or salary increase and those that did not.

Conclusions

Based on the findings of this study, the following conclusions were made:

1. The extent of staff development participation among faculty did not vary according to type of teacher certification.
2. Faculty with doctorate degrees had the greatest amount of participation in staff development while faculty with a high school diploma as their highest level of educational attainment had the least amount of participation in staff development.
3. The extent of staff development participation among faculty did not vary according to the years of teaching experience of the individual faculty member.
4. Faculty devoted more hours of participation in staff development activities that occurred outside of normal working time than during normal working time.
5. The extent of staff development participation among faculty did not vary between activities funded by personal finances and those funded by other sources.
6. Faculty devoted more hours of participation in staff development activities that did not lead to promotion and/or salary increase than those activities that did.

Discussion

A significant difference exists between this study and previous studies cited in the literature. Studies reviewed in the literature

examined faculty participation in staff development as reported by administrative personnel. This study investigated faculty participation in staff development as reported by faculty. This method provided for an examination of behavior based on self-reported data rather than an examination of behavior based on the perceptions of others.

Similarities and differences were found between the findings of this study and the literature reviewed. Cohen and Brawer (1982) and O'Banion (1972b) viewed Vocational-Technical faculty as more active in staff development than Arts and Sciences faculty. Garlock (1979) found no significant difference in staff development participation between faculty groups he called general faculty and skill subjects faculty. This study failed to find a significant difference in staff development participation between Arts and Sciences faculty and Vocational-Technical faculty.

This study found teachers with doctorate degrees to be the most active and teachers with high school diplomas as their highest educational level to be the least active in staff development participation among faculty stratified by highest levels of educational attainment. These findings contradicted the perceptions of Cohen and Brawer (1982), O'Banion (1972b), and Schlesinger (1976) who viewed faculty with lower levels of educational degrees as more actively involved in staff development.

No significant difference in staff development participation was found in this study among faculty stratified by total years of teaching

experience. This result did not concur with the perceptions of Cohen and Brawer (1982), and O'Banion (1972b), and the results of Centra (1976), and Smith (1980) who indicated that faculty in their first years of teaching were more active in staff development than faculty who had more years of teaching experience.

No sabbatical leaves were taken during the past year by faculty in this study. Garrison (1975) found that sabbatical leaves were not available for most community college faculty. Sabbatical leaves, with at least half-salary, were viewed as effective by a majority of the colleges surveyed by Centra (1976) and Smith (1980); however, sabbatical leaves were either not available or not chosen by faculty in this study.

Unpaid study leaves were found to be effective by 47 percent or more of the academic deans surveyed by Centra (1976) and Smith (1980). Study leaves comprised only two percent of the total hours spent on staff development by faculty in this study.

The review of selected literature in this study did not discover any studies which examined differences in faculty participation between staff development activities conducted during normal working time and those conducted outside of normal working time. This study found that more hours of staff development participation occurred outside of normal working time than during normal working time.

Grants for faculty to develop new approaches to teaching, refresh or update knowledge, and attend professional conferences were viewed

effective by 67 percent or more of the colleges surveyed in studies by Centra (1976) and Smith (1980). Neither study examined staff development participation between activities funded by personal finances of faculty and those activities funded by other sources. A review of selected literature had not discovered any studies conducted to determine those differences. This study found that the extent of staff development participation among faculty did not vary between activities funded by personal finances and those funded by other sources.

Financial incentives were found to influence staff development participation by Cohen and Brawer (1982), O'Banion (1972b), Hunter and Beyen (1979), and Vogler (1980). Cohen and Brawer and O'Banion viewed faculty pursuing more vigorously activities that led to financial rewards. Only 11 percent of the participation in staff development reported in this study led to promotion and/or salary increase. This study found that faculty devoted more hours of participation in staff development activities that did not lead to promotion and/or salary increase than those activities that did.

Professional meetings or conferences, area or campus sponsored inservices, and course work towards an advanced degree were three of the five staff development activities most commonly cited in the literature. These activities were three of the four activities that had the highest mean hours of participation in this study comprising 36 percent of the total time spent on staff development.

Recommendations

The research approach used in this study which examined behavior as self-reported by the respondents is recommended in future studies. Faculty did have difficulty in completing the questionnaire in this study when responding to the activities "Participated in individual reading and/or studying" (activity 15) and "Participated in community service work" (activity 24). It is recommended that data be attained by personal interview on these two activities in future research. A personal interview would provide assistance in calculating the extent of participation for faculty who feel that their amount of participation in those activities is immeasurable.

Staff development participation by community college faculty could be studied to determine the influence of other variables. In-depth analyses could also be conducted on the variables analyzed in this study. Studies could be conducted on the interactions of certain variables on staff development participation. Based on the findings from this study, the following recommendations are made for additional research:

1. A follow-up study measuring the difference in staff development participation of faculty among the 15 community colleges in Iowa.
2. A follow-up study examining various sources of funding other than personal used to finance staff development activities.
3. A follow-up study determining the amount of release time available to faculty for pursuing staff development.

4. A follow-up study estimating the effect of additional incentives for participation in staff development.
5. A follow-up study determining factors which motivate faculty to participate in staff development.
6. A follow-up study investigating the extent of staff development participation among faculty for various staff development activities.

Concluding Statement

This study provided analyses of staff development participation among community college faculty in Iowa. The findings suggest that in some instances, there was more variance of participation within faculty groups than between them. It is hoped that this study can be used to gain a better understanding of professional development and serve as a source of knowledge to help improve staff development programs at community colleges.

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I would like to acknowledge the assistance of Dr. John Van Ast and Dr. David Williams. Their advice and input enhanced the quality of my study.

This study was certified by the Human Subjects in Research Committee at Iowa State University. Part of the research expenses were supported by a grant from the Research Institute for Studies in Education and the Graduate College of Iowa State University. The results of this study were distributed to academic deans and vice-presidents of the 15 Iowa Community Colleges.

APPENDIX A. HUMAN SUBJECTS CERTIFICATION

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INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH
IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): Analysis of Professional Development
Activities of Iowa Community College Faculty

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Darwin J. Miller 11-9-84 *Darwin J. Miller*
Typed Name of Principal Investigator Date Signature of Principal Investigator

R. 2 Iowa Falls, IA 50126 515-648-3782 Office 515-648-4611 ext. 260
Campus Address Campus Telephone

3. Signatures of others (if any) Date Relationship to Principal Investigator
James J. Hottel 11/13/84 Major Professor

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- ☐ Medical clearance necessary before subjects can participate
☐ Samples (blood, tissue, etc.) from subjects
☐ Administration of substances (foods, drugs, etc.) to subjects
☐ Physical exercise or conditioning for subjects
☐ Deception of subjects
☐ Subjects under 14 years of age and (or) ☐ Subjects 14-17 years of age
☐ Subjects in institutions
☐ Research must be approved by another institution or agency



5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

- ☐ Signed informed consent will be obtained.
☒ Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: 11 26 84
Anticipated date for last contact with subjects: 12 20 84

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and (or) identifiers will be removed from completed survey instruments: 1 30 85
Month Day Year

8. Signature of Head of Chairperson Date Department or Administrative Unit
Harry Hottel 11/12/84 Professional Studies In Education

9. Decision of the University Committee on the Use of Human Subjects in Research:

- ☒ Project Approved ☐ Project not approved ☐ No action required

George G. Karas 11/15/84 *George G. Karas*
Name of Committee Chairperson Date Signature of Committee Chairperson

APPENDIX B. COVER LETTER TO FACULTY

November 26, 1984

Dear Colleague:

The personal and professional growth of community college faculty is critically important to all of us. I would like to analyze current staff development participation of community college faculty to help improve implementation of staff development programs. As a fellow faculty member, I need your input. It will take only 15 minutes of your time.

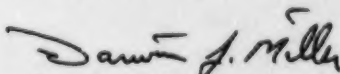
Enclosed you will find a Staff Development Analysis Survey. Please respond as honestly as you can to each statement/question. I need good, accurate, anonymous information from you.

Your input will be held in strict confidence. Please do not write your name on the survey. The code number on the survey is only for the purpose of follow-up on unreturned questionnaires.

To minimize the cost of postage for follow-up, would you please take a few minutes now to complete the questionnaire? I need your response as soon as possible but no later than December 10, 1984. I have enclosed a self-addressed stamped envelope for your convenience.

If you would like a copy of the survey results, I will mail them to you. This study is part of my Masters' Thesis at Iowa State University. I know your participation is voluntary, so I will really appreciate your assistance.

Sincerely,



Darwin J. Miller

R.R. 2

Iowa Falls, IA 50126

APPENDIX C. SURVEY INSTRUMENT

SECTION I. Staff Development Analysis

Directions: For each of the staff development activities listed, please complete the following:

1. IN COLUMN A, write the number of times you participated in each of the activities listed during the 1984 calendar year. Leave a blank for activities not participated in.
2. IN COLUMN B, estimate the total number of hours spent on the activities you marked as accurately as possible. Do not include any travel or commuting time.
3. IN COLUMN C, mark an X by those activities you participated in which were conducted exclusively during normal working time as defined by your teacher's contract.
4. IN COLUMN D, mark an X by those activities you participated in which were funded exclusively by personal finances. Do not mark an activity in which you received a grant, scholarship, stipend, etc.
5. IN COLUMN E, mark an X by those activities you participated in which will lead or led to a promotion and/or salary increase.

Staff Development Activities	Column A	Column B	Column C	Column D	Column E
1. Attended a professional meeting or conference.....	_____	_____	_____	_____	_____
2. Attended a non-professional meeting or retreat.....	_____	_____	_____	_____	_____
3. Attended an area or campus sponsored inservice activity.....	_____	_____	_____	_____	_____
4. Attended an off-campus/non-area workshop or seminar.....	_____	_____	_____	_____	_____
5. Attended an industry sponsored meeting.....	_____	_____	_____	_____	_____
6. Attended an institute.....	_____	_____	_____	_____	_____
7. Received a formal teaching evaluation by an administrator....	_____	_____	_____	_____	_____

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Staff Development Activities	Column A	Column B	Column C	Column D	Column E
8. Received a formal teaching evaluation by students.....	_____	_____	_____	_____	_____
9. Received a formal assessment by colleagues.....	_____	_____	_____	_____	_____
10. Conducted a self assessment by videotaping, survey, etc.....	_____	_____	_____	_____	_____
11. Received a formal assessment by an outside specialist.....	_____	_____	_____	_____	_____
12. Enrolled in course work towards an advanced degree.....	_____	_____	_____	_____	_____
13. Enrolled in course work not matriculated to an advanced degree	_____	_____	_____	_____	_____
14. Enrolled in local campus curriculum offerings.....	_____	_____	_____	_____	_____
15. Participated in individual reading and/or studying.....	_____	_____	_____	_____	_____
16. Undertook a study leave.....	_____	_____	_____	_____	_____
17. Undertook a sabbatical leave.....	_____	_____	_____	_____	_____
18. Conducted a special project.....	_____	_____	_____	_____	_____
19. Attended a field trip.....	_____	_____	_____	_____	_____
20. Visited another educational institution.....	_____	_____	_____	_____	_____
21. Participated in a faculty exchange.....	_____	_____	_____	_____	_____
22. Provided internal and/or external professional consultation..	_____	_____	_____	_____	_____
23. Conducted a personal development plan.....	_____	_____	_____	_____	_____
24. Participated in community service work.....	_____	_____	_____	_____	_____
25. Participated in individual work with a specialist.....	_____	_____	_____	_____	_____

SECTION II. Respondent Information Section

Directions: In order to better analyze the staff development activities of community college faculty, we need to examine participation by various groups of instructors. Please mark an X by the number which applies for each response. Please check only one for each category.

A. Highest Education Level Attained:

- ☐ 1. High School Diploma
- ☐ 2. Associate of Arts Degree
- ☐ 3. Bachelor's Degree
- ☐ 4. Master's Degree
- ☐ 5. Specialist's Degree
- ☐ 6. Doctorate Degree

B. Total years of Teaching Experience:

- ☐ 1. Less than 1 year
- ☐ 2. 1-3 years
- ☐ 3. 4-7 years
- ☐ 4. 8-11 years
- ☐ 5. 12-15 years
- ☐ 6. 16 years or more

C. Total years of teaching experience at the community college level:

- ☐ 1. Less than 1 year
- ☐ 2. 1-3 years
- ☐ 3. 4-7 years
- ☐ 4. 8-11 years
- ☐ 5. 12-15 years
- ☐ 6. 16 years or more

D. Total years of teaching at your present institution:

- ☐ 1. Less than 1 year
- ☐ 2. 1-3 years
- ☐ 3. 4-7 years
- ☐ 4. 8-11 years
- ☐ 5. 12-15 years
- ☐ 6. 16 years or more

Thank you for your participation. Please mail your completed survey in the envelope provided to: Darwin Miller, R.R. 2, Iowa Falls, Iowa 50126.

APPENDIX D. FOLLOW-UP LETTER TO NON-RESPONDENTS

December 12, 1984

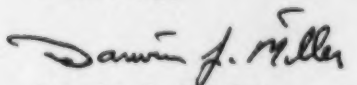
Dear Colleague:

Recently you received a Staff Development Analysis Survey instrument in the mail. The response to the first request has been good. There are, however, a few that have not been received as of yet. I am sure that you have been busy and your copy has probably found it's way to the bottom of a stack of papers. I know the feeling well.

Enclosed, please find a second copy of the instrument for your use. Would you please take a few minutes and complete this questionnaire so that the analysis of the findings can begin? I am sure that all of us, as community college instructors, are interested in the improvement of staff development programs. Your input into this project is vitally important.

Thank you for your cooperation and I shall look forward to receiving your input.

Sincerely,



Darwin J. Miller
R.R. 2
Iowa Falls, IA 50126

ERIC CLEARINGHOUSE
FOR JUNIOR COLLEGES

OCT 11 1985
